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Guidance for the Reregistration of Pesticide Products Containing Methyl Parathion as the Active Ingredient

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GUIDANCE FOR THE
REREGISTRATION OF PESTICIDE PRODUCTS

CONTAINING

METHYL PARATHION

SCHAUGNESSY NO. 053501

AS THE ACTIVE INGREDIENT
CAS. NO.: 298-00-0
DEC 8 1986

EPA CASE NUMBER 153

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I. INTRODUCTION

EPA has established the Registration Standards program in order to provide an orderly mechanism by which pesticide products containing the same active ingredient can be reviewed and standards set for compliance with FIFRA. The standards are applicable to reregistration and future applications for registration of products containing the same active ingredient. Each registrant of a product containing an active ingredient subject to this Standard who wishes to continue to sell or distribute that product must bring his product and labeling into compliance with FIFRA, as instructed by this Standard. Pesticides have been grouped into use clusters and will be reviewed on the basis of a ranking scheme giving higher priority to (1) pesticides in clusters used on food and feed crops; and (2) pesticides produced in large volumes.

The Registration Standards program involves a thorough review of the scientific data base underlying a pesticide's registration. The purpose of the Agency's review is to reassess the potential hazards arising from the currently registered uses of the pesticide; to determine the need for additional data on health and environmental effects; and to determine whether the pesticide meets the "no unreasonable adverse effects" criteria of FIFRA.

In its review EPA identifies:

1. Studies that are acceptable to support the data requirements for the currently registered uses of the pesticide.

2. Additional studies necessary to support continued registration. The additional studies may not have been required when needed to replace studies that are now considered inadequate.

3. Labeling revisions needed to ensure that the product is not misbranded and that the labeling is adequate to protect man and the environment.

The detailed scientific review, which is not contained in this document, but is available upon request[1], focuses on the pesticide active ingredient. The scientific review primarily discusses the Agency's evaluation of and conclusions from available data in its files pertaining to the pesticide active ingredient. However, during the review of these data the Agency is also looking for potential hazards that may be associated with the end use products that contain the active ingredient. The Agency will apply the provisions of this Registration Standard to end use products if necessary to protect man and the environment.

The Agency's reassessment results in the development of its regulatory position which is contained in Section IV of this Standard. Based on this regulatory position, the Agency may prescribe a variety of steps to be taken by registrants to maintain their registrations in compliance with FIFRA.

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[1] The scientific reviews are available upon request from the Information Services Section, Room 236, CM-2, 1921 Jefferson Davis Highway, Arlington VA 22202 (703-557-4453). Ninety days after the issuance of this standard, the reviews may be purchased from the Technical information Service, 5285 Port Royal Road, Springfield VA 22161.

These steps may include:

1. Submission of data in support of product registration;
2. Modification of product labels;
3. Modifications to the manufacturing process of the pesticide to reduce the levels of impurities or contaminants;
4. Restriction of the use of the pesticide to certified applicators or other specially trained individuals;
5. Modification of uses or formulation types; or
6. Specification of packaging limitations.

Failure to comply with these requirements may result in the issuance of a Notice of Intent to Cancel or a Notice of Intent to Suspend (in the case of failure to submit data).

In addition, in cases in which hazards to man or the environment are identified, the Agency may initiate a special review of the pesticide in accordance with 40 CFR Part 154 to examine in depth the risks and benefits of use of the pesticide. If the Agency determines that the risks of the pesticide's use outweigh the benefits of use, the Agency may propose additional regulatory actions, such as cancellation of uses of the pesticide which have been determined to cause unreasonable adverse effects on the environment.

EPA has authority under the Data Call-In (DCI) provisions of FIFRA sec. 3(c)(2)(B) to require that registrants submit data to answer our questions regarding the chemical, toxicological, and environmental characteristics and fate of a pesticide. This Registration Standard lists the data EPA believes are necessary to resolve our concerns about this pesticide. These data are listed in the Tables A, B, and C in Appendix I. Failure to comply with the DCI requirements enumerated in this Registration Standard may result in issuance by EPA of a Notice of Intent to Suspend the affected product registrations.

Registrants are reminded that FIFRA sec. 6(a)(2) requires them to submit factual information concerning possible unreasonable adverse effects of a pesticide at any time that they become aware of such information. Registrants should notify the Agency of any information, including interim or preliminary results of studies, if those results suggest possible adverse effects on man or the environment. This requirement continues as long as the products are registered by the Agency.

II. CHEMICAL COVERED BY THIS STANDARD

A. Description of Chemical

The following chemical is covered by this Registration Standard:

Common Name: Methyl Parathion
Chemical Name: 0,0-dimethyl-0-4-nitrophenyl phosphorothioate
CAS Number: 298-00-0
OPP (Shaughnessy) Number: 053501
Empirical Formula: $C_8H_{10}O_5NPS$

Trade Names and Other Names: 0,0-dimethyl 0-(4-nitrophenyl) phosphorothioate; 0,0-dimethyl 0-(p-nitrophenyl) phosphorothioate; parathion-methyl; metaphos, Cekumethion; Devithion; dimethyl parathion; E601; Folidol M; Fosferno M50; Parataf; Paratox; Partron M; Penncap M; Tekwaisa; Wofatox; Metacide; Bladan M; Metron; Dalf; and Nitrox 80.

Physiochemical Solubility: Soluble in most organic solvents and slightly soluble in aliphatic hydrocarbons. Practically insoluble in water (55-60 mg/liter). Compatible with most other pesticides except alkaline materials.

B. Use Profile

Methyl parathion is a broad-spectrum, non-systemic organophosphate insecticide registered for use to control many insects as well as mites and tadpole shrimp. Registered sites include terrestrial food crops (field, vegetable, and tree fruit and nut crops), terrestrial nonfood crops (tobacco and ornamentals), forestry (including Christmas tree plantations), an aquatic food crop (rice), and terrestrial noncrop sites. Methyl parathion is predominantly used on field crops. Usage on field crops accounts for 96.3 percent of the 8.2 million pounds of active ingredient used on a typical year basis. Total annual usage on vegetable crops is 3.5 percent, fruit crops account for 0.2 percent, and usage on non-agricultural sites account for 0.1 percent.

Methyl parathion is formulated in combination with carbaryl, parathion, Bacillus thuringiensis var. kurstaki, zineb, maneb, endosulfan, copper plus sulfur, methoxychlor, malathion, toxaphene, endrin, EPN, permethrin, methomyl, and azinphosmethyl. Single active ingredient formulations consist of 2.0 and 2.5% dust (D), 25 and 40% wettable powder (WP), 2 lb/gal microencapsulated (MCAP), 1.5 to 8.0 lb/gal emulsifiable concentrate (EC), and a 45.62% emulsifiable concentrate. Methyl parathion is usually foliarly applied using ground equipment or aircraft. Methyl parathion is a restricted use pesticide, and applicators must be certified or under the direct supervision of certified applicators in order to apply methyl parathion.

Methyl parathion acts by causing irreversible inhibition of cholinesterase enzyme, allowing accumulation of acetylcholine at cholinergic neuroeffector junctions and autonomic aganglia. Poisoning symptoms include headaches, nausea, vomiting, cramps, weakness, blurred vision, pinpoint pupils, tightness in the chest, drooling or frothing of mouth and nose, muscle spasms, coma, and death.

The federal and state registrations for methyl parathion include the following:

Section 3 registrations -- 305 by 82 companies
Intrastate (CFR 162.17) registrations -- 86 by 34 companies
Special Local Need Section 24(c) registrations -- 99

Intrastate producers will be notified through a separate letter as to how they must comply with the requirements imposed upon them by this methyl parathion Guidance Document. This letter will be sent to the affected companies no later than two months from the issuance of this document.

III. AGENCY ASSESSMENT

A. SUMMARY

The Agency has reviewed the available data relating to methyl parathion. Numerous data gaps exist for methyl parathion and few definitive conclusions can be made. Based on the available data, the Agency has arrived at the conclusions summarized below. A detailed discussion of these points can be found in the remaining sections of the "Agency Assessment" portion of this Standard.

1. Acute toxicity: Methyl parathion is highly toxic to laboratory mammals by all routes of exposure. Although methyl parathion is a restricted use pesticide with a 48 hour reentry interval, human poisonings from this pesticide still occur. However, there is no evidence that the poisonings occur when all reasonable prcautions are taken. Currently, there are inadequate methyl parathion exposure data available to conduct an exposure assessment. In addition, the exposure to methyl parathion cannot be directly extrapolated from generic exposure data because of the extra care usually taken when handling acutely toxic pesticides. Additional data are needed to

evaluate worker exposure. A more detailed discussion of these issues can be found in Section B item 1 (Preliminary Risk Assesment; Acute Toxicity), and Section C item 4 (Other Science Findings; Worker Exposure).

2. Subchronic toxicity: Subchronic (3-month) feeding studies in the rat and dog show cholinesterase as the primary target for the toxic action of methyl parathion. The No Observed Effect Level (NOEL) in the rat was 2.5 ppm or 0.25 mg/kg/day. The NOEL in the dog was 0.3 mg/kg/day. A more detailed discussion can be found in Section C item 1 (Other Science Findings; Subchronic Toxicity).

3. Metabolism: The specific metabolism of methyl parathion in both plants and animals has not been entirely determined. However, sufficient information is available to identify the chemical changes necessary for activation and deactivation of methyl parathion. Methyl parathion is activated by an oxidative desulfuration step that greatly enhances its anticholinesterase properties, and deactivated by a hydrolytic or oxidative cleavage that renders the molecule virtually inactive.

4. Reproductive effects: The Agency has evaluated a two-generation rat reproduction study which it considers satisfactory under current standards. Sixty male and 120 female rats were fed diets containing methyl parathion at concentrations of 0, 0.5, 5.0, and 25.0 ppm. No treatment-related effects on the reproductive indices were found. No gross or microscopic changes were considered to be related to the treatment. No additional data are required.

5. Teratogenicity: The Agency received teratogenicity data on the rat and rabbit in response to a Data Call-In Notice. These studies are unacceptable because the conduct and results of the studies were inadequately reported. These studies may be upgraded by the submission of additional data. The results of the studies in the rat suggest that methyl parathion is embryotoxic and fetotoxic in the rat at 1.0 mg/kg., but not at the NOEL of 0.3 mg/kg. Maternal toxicity was not established in this study. No evidence of developmental toxicity was reported in rabbits treated with methyl parathion at dosages up to and including 3 mg/kg/day on gestational days six through eighteen.

6. Chronic toxicity: The data from a chronic rat study indicate that methyl parathion causes retinal and sciatic nerve damage at a dietary level of 50 ppm. Additional testing is required because treatment-related functional impairment of the retina may have occurred at lower doses without structural changes being detected by the ophthalmoscopic and histologic examinations employed in this study. Also, incomplete histopathologic evaluation of the sciatic nerve at lower dose levels precludes the determination of a NOEL for this lesion. A more detailed discussion may be found in Section B, item 2 (Risk Assesment; Chronic Toxicity).

The Agency also evaluated a one-year dog study in which purebred Beagle dogs were given a diet containing methyl parathion at concentrations calculated to provide doses of 0.03, 0.1, or 0.3 mg/kg body weight/day. No compound-related toxicity was evident on the basis of clinical pathology tests with the exception of apparent mild inhibition of plasma and red blood cell cholinesterase activity at the 0.3 mg/kg dose level. This dog study is unacceptable because individual clinical observations were not reported and because there was inadequate ophthalmologic evaluation.

7. Oncogenicity: The Agency has evaluated three rat studies and one mouse study for this effect. The National Cancer Institute's (NCI) studies (both rat and mouse) showed no evidence that methyl parathion induced oncogenicity; however, because of deficiencies in experimental design, these studies could not be used as a reliable basis for assessing the oncogenic potential of methyl parathion.

Two additional rat studies were evaluated. One study was considered inconclusive, primarily because of incomplete reporting of histopathologic observations. Additional information, including historical control data, is required before the results of this study can be fully evaluated. The other rat study was acceptable and no oncogenic effects were noted. See Section B Item 3 for a more complete discussion of oncogenicity.

8. Mutagenicity: To assess the mutagenic potential of a chemical, the Agency requires a battery of tests to address three categories of possible genetic effects: 1) gene mutation, 2) structural chromosomal aberrations, and 3) other mutagenic mechanisms, including numerical chromosome aberrations and

DNA damage and repair. The Agency has received and evaluated all necessary studies. There is some evidence that methyl parathion is mutagenic and genotoxic.

9. Tolerance Reassessment: Established tolerances for residues of methyl parathion are listed in 40 CFR Sections 180.121 (a) and (b). The approach used to establish methyl parathion tolerances is no longer considered to be acceptable for several reasons. First, the majority of crop tolerances are not based on actual scientific crop residue data. Second, a single tolerance expression was used for both the methyl and ethyl homologs because methyl parathion and ethyl parathion originally were considered to be structural homologs, and residue analytical methods at that time could not differentiate between the two compounds. Therefore, combined tolerances for ethyl and methyl parathion were established. Now that an analytical method has been developed to define each of the homologs separately, the Agency is requiring the submission of additional residue data so that separate tolerances can be established. Future tolerance expressions will include methyl parathion and its cholinesterase inhibiting metabolites (O-analogs, or oxons).

The theoretical maximum residue contribution for methyl parathion is 0.7762 mg/day based on a 1.5 kg diet, which is approximately 800% of the Provisional Acceptable Daily Intake (PADI). However, this figure is not very meaningful because of the inadequacy of both the residue and toxicology data. A more detailed discussion may be found in Section D (Tolerance Reassesment).

10. Ecological effects: Methyl parathion is highly toxic to aquatic invertebrates and birds and is at least moderately toxic to other nontarget organisms. The Agency is requiring residue and population monitoring studies to evaluate potential adverse effects on fish and wildlife since theoretical calculations indicate probable adverse effects. Currently, there is little field evidence to support the predictions of acute and chronic effects. Endangered species labeling is required. Current label warnings regarding non-target organisms remain in effect. A more detailed discussion may be found in Section B item 4 (Risk Assesment; Ecological Effects) and Section C item 2 (Other Science Findings; Endangered Species Considerations).

B. PRELIMINARY RISK ASSESSMENT

1. Acute Toxicity: Methyl parathion is highly toxic to laboratory mammals by all routes of exposure with the major effect due to cholinesterase inhibition. The oral LD_{50} in rats range from 4.5 to 16 mg/kg. Acute dermal LD_{50} values range from 6 to 67 mg/kg. Inhalation LC_{50} values of 0.12 mg/L for four-hour exposure have been reported in rats. Signs of acute intoxication are typical of cholinergic poisoning. Methyl parathion is classified in Toxicity Category I, the highest toxicity category.

Although methyl parathion is a Restricted-Use pesticide with a 48-hour reentry interval, cases of human poisonings associated with the use of methyl parathion still occur.

The most reliable data base on pesticide poisonings is from California. The California information is considered to be particularly reliable because California is the only state which enforces mandatory reporting by physicians of occupational pesticide poisonings. California also investigates all reported poisonings and verifies the identity of the pesticide involved. Methyl parathion does not appear on the list of the ten leading pesticides producing systemic occupational poisonings reported by physicians in California between 1981 and 1985. Methyl parathion averaged two occupational poisonings per year during this time period. Only one incident of methyl parathion poisoning required hospitalization between 1981 and 1985 in California. The California data base for 1981 through 1984 indicates that the ratio for occupational poisonings for methyl parathion is much less than the poisoning ratio for ethyl parathion (3.8 versus 33.0 cases treated by a physician per million acres treated). Similar differences were found when the ratios were based upon pounds in use in California (9.7 versus 30.0 cases treated by a physician per million pounds used). These figures cannot be interpreted to reflect inherent toxicity to humans because differences in methods of application for the two chemicals may affect the ratios. Also, in order to determine the true risk of poisoning for the current use pattern, figures on the number of people who use ethyl and methyl parathion and the frequency of such use would be preferable but are unavailable.

It is not possible to infer what differences would be found in states other than California although very limited national data suggest that the differences would be similar. Data from an Agency survey entitled "National Study of Hospitalized Poisonings, 1974 - 1976" indicate that the ratio of occupational hospitalized poisonings (1974 through 1976) to million pounds reported in use in 1974 was 0.5 for methyl parathion and 9.4 for ethyl parathion. A review of available occupational poisoning surveys can be used to determine whether a pesticide is being used safely. The Pesticide Incident Monitoring System (PIMS), now discontinued, was an attempt at a nation-wide reporting system. A review of the PIMS data for 1978 showed four entries for methyl parathion poisoning of humans in an occupational setting. The incidents are provided in Table 1. In two of the incidents, California pesticide regulations were violated. Both of these two incidents involved probable contact with aerial spray drift. The incident involving the crash of the spray plane did not state the cause of the crash. The PIMS system is limited because of incomplete reporting. Most states do not require reporting on incidents. Additionally, the data base are not adequate to show if the poisonings occurred when methyl parathion is used according to labeled directions. PIMS data from 1978 was utilized because 1978 is a recent year prior to the termination of this system.

TABLE 1
1978 PIMS REPORTS OF OCCUPATIONAL METHYL PARATHION POISONINGS

DATE	STATE	POISONING INCIDENT
5 April	California	17 year old male flagger developed dizziness after contact with spray drift during aerial application. The individual was wearing overalls but no hat. Methyl parathion was applied at 1 pint/acre. The aerial application service was cited for failure to provide medical supervision.
30 June	Texas	A farmer was dermally exposed to methyl parathion while working on a truck. Developed nausea, dizziness, diaphoresis, headache, and ataxia. Cholinesterase level was 18 units (normal 65 - 100). Was treated with atropine.
12 July	California	26 year old male was moving a sprinkler line 1/4 mile from a cotton field sprayed with methyl parathion earlier in the day. He was able to smell the pesticide in the air. He was taken to the hospital with chills, headache, weakness, dry mouth, nausea, tenseness, dilated pupils, agitation, and nervousness. Was treated with atropine. The company was cited for not having a restricted materials permit for methyl parathion.
19 July	Mississippi	Aerial applicator crashed while spraying and was soaked with ethyl parathion and methyl parathion. Serum cholinesterase was 1.06. Hospitalized for one day. The PIMS report did not specify if ethyl parathion or methyl parathion exposure were the cause of the crash.

However, poisonings may have been reported nationwide as parathion without proper identification of which homolog was involved. Some cases may have been reported simply as parathion without specification as to whether the poisoning was due to methyl or to ethyl parathion.

Methyl and ethyl parathion are different in toxicity, use patterns, and formulations and this may explain the differences in poisoning incidences. Methyl parathion is slightly less toxic than parathion. Aerial application is the usual method of application to alfalfa and rice, both of which are major methyl parathion uses in California. Pilots receive substantially lower exposures per pound of pesticide applied compared to ground applicators. The Agency's review of parathion poisonings in California showed that pilot poisonings were rare. Additionally, methyl parathion is available in a microencapsulated formulation which is known to have a lower dermal toxicity than all other formulations.

Although case reports on accidents indicate that methyl parathion does present some acute toxicity risk to applicators and farm workers, experience has shown that the problem may be correctable through extra care and labeling precautions. By contrast, in the case of ethyl parathion, there were case reports indicating that applicators were being poisoned despite taking all possible protective measures.

2. Chronic Toxicity: A two-year rat study using the Sprague-Dawley derived CD strain was conducted in which dietary concentrations of 0.5, 5, and 50 ppm were given to the rats. The high dosage (50 ppm) of methyl parathion in this strain of rats caused retinal and sciatic nerve damage.

Evaluation of the sciatic nerve from high-dose males indicated a loss of myelinated nerve fibers, increased myelin sheath degeneration, and Schwann cell proliferation. The lack of adequate histopathologic evaluation of the sciatic nerve at lower dose levels precludes the establishment of a NOEL for this lesion.

Methyl parathion treatment also caused retinal atrophy and posterior subcapsular cataract in high dose females. Because treatment-related functional impairment of the retina may have occurred at lower doses without being detected in this study, the Agency is requiring further testing to evaluate specific ocular parameters at the lower doses.

3. Oncogenicity: In a two-year study with Wistar rats (GS00153006), dietary exposure to methyl parathion at a concentration of 50 ppm (the highest level tested) may have caused a statistically significant increase in thyroid adenomas among males. Because of deficiencies in reporting the histopathologic findings of this study, oncogenicity could not be definitively evaluated from the data provided. Further information is required, primarily additional historical control data and a specific characterization of the lesions in question, to upgrade this Wistar rat study.

No evidence of oncogenicity was found in an acceptable 2-year study in Sprague-Dawley rats (GS00153007), or in the oncogenicity screening studies conducted by the National Cancer Institute (NCI) on Fischer F344 rats and B6C3F$_1$ mice (00127239). However, The National Cancer Institute studies are not acceptable because of deficiencies in experimental design and incomplete reporting of results. Because the Agency has an acceptable rat oncogenicity study it is not requiring additional oncogenicity testing in this species at this time. An additional mouse oncogenicity study is required.

4. Ecological Effects: Toxicity studies on the technical grade indicate that methyl parathion is very highly toxic to birds on an acute oral basis. The LD_{50} in various species of birds ranged from approximately 7.5 to 60 mg/kg. This insecticide is also highly toxic to avian species by dietary exposure (LC_{50}). The LC_{50} ranged from approximately 29 to 680 ppm in a variety of species of birds.

Although laboratory data indicate that methyl parathion is highly toxic to birds, there are no reports of avian field kills. However, this does not mean that there have not been significant kills since in the past most bird kills, except for the very massive, go unreported or even unnoticed. The field studies required by this Standard will allow the Agency to evaluate acute avian effects resulting from the use of methyl parathion.

Currently, there are no laboratory data on the direct effects of technical methyl parathion on avian reproduction. Laboratory studies conducted using Penncap-M (an encapsulated methyl parathion product), however, indicate that at levels up to 15 ppm active ingredient (ai), there was no biologically significant impairment of reproduction or survival. There was, however, significant depression in brain cholinesterase activity in the adults.

Preliminary field studies indicate that methyl parathion may affect avian reproduction, although the effects are indirect. Specifically, the available field testing data on starlings demonstrate that nestling survivability can be affected by changes in nesting behavior of parents exposed to methyl parathion and/or depressed food abundance. In that study, nestling starlings had a mortality rate of 39 percent although they were not directly exposed to the single aerial application of the pesticide. Also, the production and survival of teal fledglings and mallard ducklings was reduced by the application of methyl parathion. Both the number of broods and number of duckling per brood were reduced. In addition, several mallard hens abandoned their nests two days after treatment of the area. This is a behavioral aberration that the Agency believes was caused by exposure to the pesticide.

Small pen studies, simulated avian field studies, and field studies in Skagit Valley (GS00153020 and GS00153021) indicate that birds exposed to methyl parathion display changes in breeding behavior. Several other observations were also noted in these studies: 1.) the birds may die directly from the pesticide or from diseases caused by increased stress produced by the chemical, or 2.), the birds may survive but with a significant depression in brain cholinesterase levels.

In summary, EPA is evaluating whether exposure to methyl parathion, a cholinesterase inhibitor which affects the nervous system, can result in changes in nesting behavior even though the chemical may not directly affect reproduction. These possible behavioral effects may be sufficiently severe to seriously reduce the overall rate of reproductive success. Additional field data on the effects of methyl parathion on reproductive success in passerines, upland gamebirds, and waterfowl are necessary because it is unlikely that these effects can be measured in the standard laboratory avian reproduction study.

Acute oral toxicity studies indicate that methyl parathion is moderately toxic to microtine rodents (voles). The LD_{50} ranged from approximately 57 to 380 mg/kg in voles. On a dietary basis, there is sufficient information to characterize methyl parathion as highly toxic to rats and moderately toxic to microtine rodents. The LC_{50} ranged from approximately 110 to 250 ppm in rats and from around 600 to 900 ppm in voles. As a result, the Agency is requiring that terrestrial field studies which monitor birds and mammals be performed. Specific requirements concerning these studies are listed in the Ecological Effects data tables.

Methyl parathion is highly toxic to freshwater invertebrates, in which the LC_{50} ranged from approximately 0.14 to 33 ppb. Data indicate that methyl parathion is very highly toxic to shrimp (it is registered to control tadpole shrimp) and copepods but only moderately toxic to oysters. The LC_{50} was around 1 ppb for shrimp and approximately 30 ppb for copepods. Methyl parathion is moderately toxic to freshwater fish, with the LC_{50} ranging from approximately 2 to 10 ppm. There was a wide range of toxicity to estuarine fish. Methyl parathion is highly toxic to spot and to striped bass, but only moderately toxic to sheepshead minnows.

A comparison of laboratory acute toxicity values for invertebrates and estimated concentrations in water indicate that some invertebrates would receive lethal doses resulting from both cotton and soybean uses of methyl parathion. The laboratory chronic data on the reproduction and survival of invertebrates and the fact that multiple applications of methyl parathion can be used on a particular site suggest that chronic effects on invertebrates can also occur.

A comparison of the estimated concentrations in water with the acute and chronic effects data concerning survival and growth for fish in laboratory studies, indicate that the potential effects on fish are inconclusive. However, brain acetylcholinesterase (AChE) inhibition was observed in bluegill in a field situation. This information suggests that chronic effects can occur to fish populations. Neither invertebrate nor fish population effects have been adequately studied in field situations. Since the laboratory data indicate the potential for risks to fish and aquatic invertebrate communities, the Agency is requiring aquatic field testing data. Please refer to the Ecological Effects data tables for information concerning these data requirements.

C. OTHER SCIENCE FINDINGS

1. Subchronic Toxicity: Rats were fed 0, 2.5, 25, and 75 ppm technical methyl parathion in their feed. Both plasma and red blood cell (RBC) cholinesterase inhibition were noted in male and female rats at the 25 and 75 ppm ppm treatment levels. The NOEL was 2.5 ppm or 0.25 mg/kg/day.

Beagle dogs were fed diets containing 0.3, 1.0, and 3.0 mg/kg for 90 days. The only compound-related effect noted in the dog was inhibition of plasma and RBC cholinesterase activity at the mid- and high-dose levels and depression of brain cholinesterase activity at the 3.0 mg/kg level. No other compound-related effects were reported. The Lowest Effect Level (LEL), based on cholinesterase depression, was 1.0 mg/kg/day and the NOEL was 0.3 mg/kg/day.

2. Environmental Fate: Available data are insufficient to fully assess the environmental fate of methyl parathion and the exposure of humans and nontarget organisms to methyl parathion. The following data are required to fully assess the environmental fate and the transport of and exposure to methyl parathion: hydrolysis studies; photodegradation studies in water, on soil, and in air; aerobic and anaerobic soil metabolism studies*; aerobic and anaerobic aquatic metabolism studies; leaching and adsorption/desorption studies;

The aerobic and anaerobic soil metabolism studies are not required if acceptable anaerobic metabolism studies are submitted.

laboratory and field volatility studies; terrestrial (soil), aquatic (sediment), forestry, and possible long-term field dissipation studies; and accumulation studies on rotational and irrigated crops, fish, and aquatic nontarget organisms.

Degradation: The preliminary data on degradation discussed below is not core data and were not necessarily obtained with tests meeting EPA's Guidelines Requirements. Nevertheless, these preliminary data do provide the following information. Methyl parathion at 10 parts per million degrades in seawater with 43% of the methyl parathion applied to the sea water sunlight. Methyl parathion at 0.04 parts per million on degrades in water of sediment/water systems with a half-life of about one to three days. In hydrosoil plus sediment, the half-life for the emulsifiable concentrate is about one to three days, and the half-life for the microencapsulated formulations is about three to seven days. The term "hydrosoil plus sediment" refers to a test sample including the dense material at the bottom of a body of water (hydrosoil) and the lighter sediment above the hydrosoil. In soil columns, methyl parathion is mobile in sand, but relatively immobile in sandy loam, silty clay loam, and silty loam soils. In aqueous solution with sandy loam soil, the ratio of concentrations of methyl parathion in solution to that adsorbed is about 1:5. Methyl parathion is not likely to contaminate groundwater. Methyl parathion concentrations in runoff from both bare soil and turf applied four to five days post-treatment at 5 lb ai/A were similar, about 0.13 to 0.21 ppm in the runoff water in each case. However, the volume of runoff was not stated; consequently, a percent of applied methyl parathion cannot be estimated. In the field, dissipation studies showed that less than 0.05 ppm remained after 30 days when a 3 lb/A emulsifiable concentrate was applied.

3. Worker Exposure: In 1971, the Agency required extensive protective clothing for methyl parathion that included the use of respirators and waterproof clothing. In 1978, the Agency classified all formulations of methyl parathion for restricted use.

Currently, there are insufficient exposure data available to conduct a quantitative risk assessment. The available surrogate data may not be comparable to the current methyl parathion exposure data because workers are extraordinarily careful when handling methyl parathion. The Agency reviewed ethyl parathion and mevinphos exposure estimates which are available in the published literature. When these estimates were compared to other pesticides which are applied in a similar fashion, the comparisons indicate that ethyl parathion and mevinphos produce atypically low exposures. The Agency believes that exposure to methyl parathion may also be atypically low. Additional exposure data are required for mixers/loaders, applicators, and fieldworkers while using methyl parathion.

As previously stated, the Agency does not have sufficient data to quantify occupational exposure to mixer/loaders and applicators handling methyl parathion. A review of the available poisoning incidents data suggests that methyl parathion can be used when the appropriate protective measures are employed. A similar review of ethyl parathion incidents indicated that poisonings occurred despite extensive precautions and protective clothing.

A federal reentry interval of 48 hours for methyl parathion has been established for all crops. California has established more stringent reentry intervals because reentry presents a greater problem in California than it does in other areas. Climate conditions in California such as duration of sunlight and lack of rain favor the chemical conversion of methyl parathion to methyl paraoxon, which is much more toxic than methyl parathion. In other geographical regions, a shorter reentry interval is justified.

California has established reentry intervals for methyl parathion of 21 days for peaches and nectarines and intervals of 14 days for citrus, grapes, and apples when the application rate is greater than 1 lb ai/A. When methyl parathion is applied at 1 lb ai/A or less, a 48-hour reentry interval is imposed. However, because the climatic conditions in Monterey County, California increase the rate of dissipation of non-encapsulated methyl parathion, the reentry interval for nonencapsulated methyl parathion in Monterey County is six days for grapes. When microencapsulated methyl parathion formulations are used for grapes, the reentry interval is 48 hours in all counties of California.

4. Endangered Species Considerations: Endangered species labeling is required for certain methyl parathion uses. As further information becomes available, additional endangered species labeling may be required by the Agency. This conclusion has been reached as a result of the Agency's evaluation of the potential for methyl parathion to jeopardize endangered species which reside in areas where this pesticide is used. This assessment was made in conjunction with analyses of all pesticides under the generic cluster approach which considers the risk to endangered species on a crop-by-crop basis. The Agency believes that the labeling required in this standard is the most efficient and effective manner of mitigating risks to endangered species.

Based on terrestrial residue analysis and aquatic runoff modeling, it appears that certain use patterns of methyl parathion have sufficient exposure to pose a hazard to the listed species. The Agency's analysis shows a hazard to endangered and threatened mammals, birds, aquatic invertebrates, reptiles, and insects.

The criteria used by the Agency to determine whether a pesticide poses a risk to the continued existence of an endangered or threatened species are significantly more stringent than those used for non-endangered species. Terrestrial endangered species are determined to be at risk if pesticide residue levels are one-fifth of the LC_{10} or one-tenth of the LC_{50}. Aquatic endangered species are determined to be at risk if residue levels are one-tenth of the LC_{10} or one-twentieth of the LC_{50}. By contrast, non-endangered terrestrial species are determined to be at risk if the residue levels are greater than or equal to the LC_{50}. Non-endangered aquatic species are determined to be at risk if residues are greater than or equal to one-half the LC_{50}.

Since 1982, cotton, corn, small grains (wheat, barley, rye, and oats), sorghum, soybeans, rangeland, forest, and mosquito larvicide registrations have been reviewed under the cluster project. Methyl parathion is registered for some of these sites. The hazard to endangered species from other uses of methyl parathion has been determined in two ways: by review and formal consultation with the Office of Endangered Species (OES), and the U.S. Fish and Wildlife Service, and by examining consultations prepared on other pesticides used on the same sites and with the same use pattern(s). The latter approach is based on the assumption that if a hazard to an endangered species is identified for a particular site and use pattern for one pesticide, then the use of another equally hazardous pesticide on the same site with the same use pattern may pose a similar hazard. In these investigations, use of methyl parathion was found to pose potential hazards to the endangered species listed below.

a. Cluster Opinions

The various cluster opinions resulted in the following jeopardy findings which apply to methyl parathion uses:

1. Crops

Attwater's greater prairie chicken (corn, cotton, soybeans, sorghum, barley, and wheat)
Aleutian Canada goose (corn, wheat, barley)
Everglade kite (corn)
Masked bobwhite (range and pastureland)
Valley elderberry longhorn beetle (corn, barley, wheat)
Delta green ground beetle (corn, small grains)
Kern Primrose sphinx moth (small grains, corn and soybeans)

2. Range and Pastureland

Aleutian Canada goose
California condor
Whooping crane
Masked bobwhite
Santa Cruz long-toed salamander
Eastern indigo snake
Hawaiian goose
New Mexican ridge-nosed rattlesnake
San Marcos salamander
Houston toad
Mississippi sandhill crane
Wyoming toad
Desert tortoise
Valley elderberry longhorn beetle
Kern primrose sphinx moth
Delta green ground beetle
Socorro isopod
Hay's Spring amphipods

3. Mosquito larvicides

Yuma clapper rail
California clapper rail
Aleutian Canada goose
Salt marsh harvest mouse
Light-footed clapper rail
California least tern
Hawaiian gallinule
Hawaiian coot
Hawaiian stilt

Mississippi sandhill crane
Socorro isopod
Madison Cave isopod
Whooping crane (Grays Lake population)
Kentucky Cave shrimp

4. Forest

Kirtland's warbler
Red-cockaded woodpecker

b. Other Opinions

The Agency has also examined biological opinions prepared for other pesticides which are used on the same sites as methyl parathion. These other pesticides also have similar use patterns and were determined to have met the risk criteria for posing a hazard to endangered species. Based on these comparisons, the Agency believes that methyl parathion would also jeopardize the endangered species listed under each of the following pesticides. These species are included in the endangered species labeling found in Section IV.D. of this document.

Species in Jeopardy (assumptions of jeopardy)

Tralomethrin (cotton)

San Marcos salamander

Texas blind salamander

Houston toad

Carbosulfan (apples and pears)

Valley elderberry longhorn beetle
Blunt-nosed leopard lizard
Aleutian Canada goose
Santa Cruz long-toed salamander

d. Remaining Uses

Methyl parathion is registered for several uses that have not been reviewed in the cluster project or in registration submissions for other chemicals. It is unlikely that these future crop reviews will add endangered species to the list thus far established because of the broad geographical distribution of the crops already reviewed.

Endangered species labeling statements are included in the section of this document entitled "Required Labeling -- Environmental Hazards Statement" and "Required Labeling -- Endangered Species Restrictions". There is one label statement for crops, one for pasture/rangeland, and one for mosquito larvicide uses. The label statements for crops and pasture/rangeland indicate that the user must obtain the EPA Endangered Species Bulletin before using a methyl parathion product on that site. The mosquito larvicide products do not contain a reference to an EPA Endangered Species Bulletin. Mosquito larvicides are applied by mosquito abatement districts which will be required to contact endangered species specialists for guidance prior to use.

D. TOLERANCE REASSESSMENT

1. Residue Data

Tolerances have been established for residues of methyl parathion in a variety of raw agricultural commodities [40 CFR 180.121 (a) and (b)]. 40 CFR 180.121 (a) includes residues

Chlorpyrifos (alfalfa)

Houston toad
Aleutian Canada goose

Carbofuran (rice, peanuts, grains)

Aleutian Canada goose
Attwater's greater prairie chicken
Kern primrose sphinx moth

Oxyfluorfen (non-crop)

Listed insects
Houston toad
Wyoming toad
San Marcos salamander

c. Non-jeopardy decisions

Biological opinions prepared for the pesticides listed below did not indicate that they would jeopardize any endangered species as a result of their use on designated crops. The Agency has therefore concluded that the use of methyl parathion on the crops listed below would not jeopardize endangered species.

Carbofuran

Tobacco
Peppers
Strawberries
Sugarbeets
Potatoes
Sweet potatoes
Grapes

Chlorpyrifos

Broccoli
Brussel sprouts
Nectarines
Cabbage
Rutabagas
Sunflowers
Tomatoes
Citrus

Aldicarb

Tomatoes
Citrus

of ethyl parathion and its methyl homolog (methyl parathion), whereas 40 CFR 180.121 (b) includes tolerances for residues of methyl parathion but not for ethyl parathion. The tolerance expression in 40 CFR 180.121 (a) included both the methyl and ethyl homologs of parathion because these homologs were not distinguishable by the analytical methodology (colorimetric) available at that time. However, current gas chromatographic analytical methods are capable of distinguishing between these two compounds, and, therefore, the Agency is now requiring separate tolerances.

The majority of crop tolerances for methyl parathion were established by the Pesticide Spray Residue Hearings held in the 1950s and are based on estimates of residues which would probably be present following pesticide treatment to the crop; the tolerances are not based on actual scientific crop residue data. The existing tolerances do not take into consideration the metabolites of the parent compounds. Therefore, the Agency is also requiring that methyl parathion tolerances be expressed in terms of the parent compound and any identified major metabolites.

Crop residue data and plant and animal metabolism data are required by this Registration Standard. Once the Agency has received and reviewed these data, it will determine whether additional tolerances for animal products (meat, milk, and eggs) are required. As indicated in Table A, crop group tolerances are not appropriate at the present time since additional key residue data are needed for representative members in each crop group.

2. Toxicology Data

The current provisional acceptable daily intake (PADI) for methyl parathion is 0.0015 mg/kg/day. This figure is based on a subchronic (90 day) dog study with a NOEL of 0.3 mg/kg/day (12 ppm in the diet); the safety factor was set at 200, in accordance with previous standard practice. The present PADI is temporary and will be modified (or an ADI will be established) when additional required data are received and evaluated. The Theoretical Maximum Residue Contribution (TMRC) is approximately 0.78 mg/day based on a 1.5 kg diet. This is approximately 800 percent of the PADI for the general population, based on established tolerances.

This assessment may greatly exaggerate dietary exposure. The assessment is based on several worst-case assumptions: that methyl parathion residues are equal to established tolerance levels, that 100 percent of the crop is treated with methyl parathion, and that there is no degradation of residues after harvesting. It has been the Agency's experience that pesticide residue levels on crops are usually below established tolerances. In addition, much less than 100 percent of registered crops are treated with methyl parathion, and, in fact, very little methyl parathion is used on crops that contribute significantly to the TMRC. Before the Agency can assess methyl parathion's risk from dietary exposure, additional toxicological data are needed. Data from recent chronic feeding studies in rats suggest that a new, lower NOEL may need to be established based on either cholinesterase effects or systemic effects, whichever occurs at a lower level. The Agency is requiring additional data to determine a NOEL for eye toxicity based on possible functional retinal impairment in the dog and rat. Data on sciatic nerve degeneration in the rat must also be provided.

IV. REGULATORY POSITION AND RATIONALE

A. REGULATORY POSITIONS AND RATIONALES

Based on review and evaluation of all available data on methyl parathion, the Agency has made the determinations below. Refer to Section IV.D. for specific language for label revisions.

Special Review

1. The Agency will not conduct a Special Review for methyl parathion at this time.

Rationale: Although methyl parathion is a highly toxic chemical, a Special Review will not be conducted for several reasons. First, although methyl parathion has been shown to cause retinal and sciatic nerve damage at high doses (50 ppm in rats) adequate exposure data are not available to evaluate risk. As a result, there is no basis upon which to determine whether these effects are likely to occur in humans. In addition, the available data do not suggest that retinal and sciatic nerve problems are being experienced in human populations. Thus, the Agency cannot conclude at this time that the use of methyl parathion poses risks of retinal and sciatic nerve damage. However, because of the evidence of retinal and sciatic nerve damage observed in laboratory animal studies, and in view of the numerous data gaps relating to toxicology and exposure to methyl parathion, the Agency will carefully review these data being submitted in response to this Registration Standard to determine if a Special Review is warrented. Second, although incidences of human poisoning have occurred, they have not occurred, in the Agency's opinion, frequently enough to warrent a Special Review. A more complete discussion of worker safety may be found in Section III, supra. Third, although methyl parathion is highly toxic to birds and other aquatic invertebrates and at least moderately toxic to other non-target organisms, there is little evidence derived from field investigations to support the predictions. The Agency is requiring that additional field monitoring studies for fish and wildlife be conducted. The Agency reserves consideration of Special Review until it has recieved and reviewed these additional field monitoring studies.

While methyl and ethyl parathion are both very highly toxic to birds, the regulatory treatment being accorded them by the Agency differs for several reasons. There are many reported bird mortalities relating to the agricultural use of ethyl parathion as indicated by field studies and accident reports from both federal and state agencies. In contrast, the Agency has not received such reports form methyl parathion.

Restricted Use

2. All methyl parathion products are currently classified as Restricted Use pesticides, and this classification is being retained. However, the Agency has modified the Restricted Use Statement. Certified applicators are now required to be physically present during application, mixing and loading of methyl parathion, as well as during repair and cleaning of the application equipment. Commercial applicators are also required to ensure that all persons engaged in these activities under their direct supervision are informed of all precautionary statements on the label. Finally, the reason or basis for the restriction is stated; "because of very high acute toxicity to humans and birds".

Rationale: The acute toxicity of methyl parathion to humans has been well-documented. Because of this concern, methyl parathion was classified as a Restricted Use Pesticide in 1978 and a reentry interval was established in 1974. This concern continues, consequently, the Restricted Use Classification will remain in effect, with modifications designed to provide additional protection. The Agency has imposed the additional requirements in order to increase the level of protection afforded to mixer/loaders and applicators. Because of the inherent dangers which could arise as a result of exposure during application, splashing and spillage during mixing and loading, and during repair and cleaning of application equipment, certified applicators are taught safe methods by which to use pesticides. Untrained workers are less likely to be aware of the acute hazards associated with methyl parathion. A requirement stipulating that a certified applicator must be physically present during these procedures will increase supervision as well as improve compliance with label requirements. The Agency requires that commercial applicators ensure that persons under their direct supervision who are involved in applying, mixing and loading of the pesticide and/or repair and cleaning of application equipment are informed of precautionary usage statements found on the methyl parathion label. This regulation ensures that persons who may come into contact with the methyl parathion are aware of and can comply with required measures designed to protect their health.

Additional Tolerances

3. The Agency will not accept any additional tolerances, either group or otherwise. No new food uses or tolerances will be granted until the Agency has received both data to support an acceptable daily intake and to support a full tolerance assessment.

Rationale: The Agency has established a policy that precludes the establishment of tolerances or new uses if the toxicology data base is substantially incomplete and if the pesticide's TMRC significantly exceeds the Acceptable Daily Intake (ADI). The Agency becomes very concerned whenever a the Theoretical Maximum Residue Concentration is greater than 100 percent of the ADI. First, the Agency focuses upon ways in which the TMRC can be decreased, thereby lowering the percentage of the TMRC that is utilized by the ADI. If this cannot be accomplished, tolerances must be revoked and uses must be cancelled.

Exposure Data

4. The Agency is requiring human exposure and biological monitoring studies.

Rationale: A review of available mixer/loader and applicator data for methyl parathion indicates that such studies are necessary. The exposure data in the Agency's files are not adequate to conduct an exposure assesment. Surrogate data are available to perform the exposure assessments for aerial, ground boom, and airblast applications of liquid and wettable powder formulations for typical pesticides. However, the use of surrogate data for evaluating notoriously highly toxic chemicals such as methyl parathion are not realistic, since these chemicals are usually handled much more carefully than less toxic pesticides. For example, when the Agency compared average exposures of ethyl parathion and mevinphos to the exposures of other pesticides which are applied by similar methods and at similar application rates, average ethyl parathion and mevinphos exposures were lower than would normally be expected. Therefore, actual exposure data for methyl parathion are being required.

The Agency is requiring both passive dosimetry and biological monitoring studies for each formulation of methyl parathion. The exposure and biological monitoring studies are required for aerial application, ground boom application, and air blast application. Mixer/loader exposures should be evaluated with both open pour and closed loading systems when applicable.

Reentry Interval

5. The Agency is not changing its current Federal reentry interval of 48 hours at this time.

Rationale: On February 28, 1985, the Agency issued a Data Call In (DCI) Notice notifying registrants that these data must be submitted within 18 months. The Agency has received data in response to this request; this data is currently being reviewed. When this review is complete, a reentry interval will be established. The current reentry interval was established without supportive data, however the Agency believes that this reentry interval is adequate until the new data is reviewed and new reentry interval(s) is established.

Protective Clothing and Equipment

6. Existing Federal labeling requires the use of protective clothing and equipment during application of methyl parathion. The type of protective clothing and equipment required includes waterproof pants, coat, hat, rubber gloves and boots, safety goggles, and a mask or respirator approved for use with parathion. The Agency has determined that this full body protective clothing and equipment must be used during mixing/loading operations and during field repair and cleaning of equipment used to mix, load, and apply the pesticide. In addition, this protective clothing and equipment would also be required if treated fields are re-entered prior to the end of the reentry interval.

Rationale: The Agency has determined that the use of protective clothing and equipment for mixing/loading operations, field repair, cleaning of application equipment, as well as for early reentry into treated fields is needed because of methyl parathion's high acute toxicity and the associated potential for high exposure during these activities. Repair and cleaning of application equipment may involve a risk of spillage or rupture of lines and hoses, and result in exposure to mixer/loaders and applicators. By requiring persons engaged in these activities to wear the protective clothing and equipment described in Section IV.D. infra, the potential for exposure will be reduced.

Glove permeability studies are needed in order to determine if the gloves that are in use are adequate to protect pesticide workers.

Alternative Protective Clothing and Equipment

The modified label provides that alternative protective clothing and equipment may be worn if mixing/loading is performed using a closed system, or if application is performed using an enclosed cab or cockpit. The alternative protective clothing and equipment is less extensive than that required in other circumstances.

Rationale: Studies have demonstrated that the use of closed mixing/loading systems and totally enclosed cabs can substantially reduce exposure to some pesticides (GS00155025). The term "totally enclosed cabs" implies that physical barriers to the outside environment exist and that windows or louvers are kept closed. Because of the impact (economic and otherwise) this equipment could impose upon the users of this pesticide, the Agency has decided not to require its use at this time. The Agency does, however, wish to encourage the use of this equipment. The Agency is giving applicators the option of using less extensive protective clothing and equipment if closed mixing/loading systems are used. Such clothing and equipment includes chemical resistant gloves and apron, and a long-sleeved shirt (or gauntlets and a short-sleeved shirt) and long legged pants. If application is made using an enclosed cab or cockpit, a long-sleeved shirt and long-legged pants must be worn. Chemical-resistant gloves must be available for exiting the vehicle or aircraft.

Human Flaggers

8. The Agency is prohibiting the use of human flaggers during aerial application of parathion.

Rationale: Human flaggers face a substantial risk, either directly or through drift, of being exposed to methyl parathion because of the nature of aerial application and the changing wind conditions. Incidence data also show a number of poisonings to human flaggers.

Storage and Laundering of Personal Clothing

9. Existing labeling for methyl parathion contains numerous directions regarding personal hygiene and cleaning of protective clothing and equipment after working with the pesticide. The instructions also add a requirement that personal clothing which is worn while working with methyl parathion be stored and laundered separately from other household items.

Rationale: This requirement is intended to prevent secondary poisonings of workers and other household members.

National Pesticide Telecommunications Network

10. The Agency has added the telephone number of the National Pesticide Telecommunications Network to the label. This number is (1-800-858-7378).

Rationale: The telephone number is included in order to provide an additional source of first aid information in the event of an accident.

Spray Drift Data Requirements

11. Droplet Spectrum and Spray Drift Field Evaluation tests are required. The droplet spectrum study must be performed to reflect the commonly-used nozzle and other equipment types which are used in the application of methyl parathion to cotton, fruit and nut trees, and forests. The spray drift field evaluation must be performed to reflect the commonly-used application equipment, use patterns, and typical locations of use (including different weather factors). The spray drift field evaluation should specifically be conducted on cotton.

Rationale: The Agency is concerned about hazards to nontarget organisms (fish and wildlife, domestic animals and humans) caused by drift from aerial and mist-blower applications of methyl parathion. These tests are required because of the toxic nature of methyl parathion and because the methods used to apply methyl parathion (mist blower and aerial) may lead to exposure of bystanders and wildlife. These tests will indicate the extent of possible drift of this chemical from normal applications and the data from these tests will enable the Agency to evaluate the potential for drift. The required testing using cotton as a site is being required because cotton is one of the major uses of methyl parathion.

Waiver of Acute Toxicity Studies

12. Although the Agency does not have guideline data for certain acute studies such as dermal sensitization, primary dermal irritation, and primary eye irritation tests, the Agency is not requiring these data at this time.

Rationale: The Agency is not requiring these data because of the well-known highly toxic nature of methyl parathion. This toxicity would overshadow any possible irritant or sensitization properties. Additional testing would not alter the toxicity category or classification of methyl parathion.

Endangered Species

13. The Agency is requiring endangered species labeling for certain uses of methyl parathion.

Rationale: The Agency has evaluated the potential for methyl parathion to jeopardize endangered species in areas where this pesticide is used. Analyses of terrestrial residue and aquatic runoff modeling indicate that certain use patterns of methyl parathion have sufficient exposure to pose a hazard to endangered/threatened species.

Separate Tolerances

14. The Agency is requiring that separate tolerances be established for residues of ethyl parathion and methyl parathion.

Rationale: In the 1950's, the tolerance expression included both ethyl and methyl parathion because these homologs were not distinguishable by the analytical methodology (colorimetric) available at that time. The current gas chromatographic analytical methods are capable of distinguishing between these two compounds and, therefore, the Agency is requiring separate tolerances for these two chemicals.

15. Tolerances must be established for residues of methyl parathion in cattle, goats, hogs, horses, poultry, and sheep. [40 CFR 180.121].

Rationale: The need for and magnitude of the residue tolerances for methyl parathion in livestock products has not been assessed for several reasons. First, the nature of the residue in ruminants and poultry has not been elucidated. Second, the nature and magnitude of the residues in the raw agricultural and processed feed commodities have not been adequately determined. Third, there are no available feeding studies. Currently, methyl parathion is not registered for direct use on livestock. When the requested data are received and evaluated, data needs and tolerance proposals for residues in animal commodities will be determined. The TMRC will also be recalculated.

Tolerances for residues in these animals must be established for safety reasons, as all of these animals are used for human consumption. Currently, there are no established tolerances for these animals.

Residue Data

17. Residue data and appropriate studies involving food preparation (washing, peeling, cooking) are required.

Rationale: This information is necessary in order to conduct an appropriate dietary assessment. Additional residue data is necessary because in the process of food preparation, residue may be lowered (depending upon the type of preparation involved).

Tolerance Changes

18. The Agency has determined that certain additional tolerances be obtained or modified. Specific modifications and their individual rationales are described below.

a. Separate tolerances should be established for snap, lima, and dry beans.

Rationale: Tolerances were not established for these commodities. Tolerances for these commodities were originally described in the crop grouping tolerance scheme which has since ended.

b. Separate tolerances should be established for succulent and dry peas.

Rationale: Subdivision O of the Pesticide Assessment Guidelines requires the establishment of separate tolerances for succulent and dry peas.

c. Data and tolerance proposals must be submitted for residues in or on bean vines and hay, pea straw, and soybean forage and straw along with pregrazing intervals for pea vines, bean vines, and soybean forage; alternatively, a feeding and grazing restrictions for these commodities must be proposed.

__Rationale:__ Because these commodities are fed to animals, tolerances need to be established for them. Subdivision O of the Pesticide Assessment Guidelines requires the establishment of tolerances for feed commodities.

d. The tolerance for residues in or on "summer" squash must be revoked.

__Rationale:__ This tolerance must be revoked because there is no registered use on "summer" squash __per se__. Additionally, the tolerance for residues in or on squash encompasses "summer" squash.

e. Separate tolerances must be proposed for residues in or on field corn grain and sweet corn (kernel plus cob with husks removed).

__Rationale:__ Separate tolerances for these two types of corn are necessary because significant major differences occur in the growing seasons and cultural practices for sweet corn as compared to field corn.

f. A permanent tolerance must be proposed for residues in or on rye grain.

Rationale: The interim tolerance on rye has been revoked. There exists a registered use for methyl parathion on rye, but this use is not presently covered by a tolerance. Registrants must request a permanent tolerance for rye. Registrants must submit appropriate data for a tolerance on rye grain. Appropriate food and feed additive tolerances are also necessary if milling data indicates the necessity for them.

g. Pregrazing intervals for forage and tolerances are needed for barley forage, hay, and straw; oat forage, hay, and straw; rice straw; rye forage, hay and straw; and wheat forage, hay and straw. However, data submitted for wheat can be translated to barley, oats, rice and rye. Alternatively, feeding and grazing restrictions must be proposed for these commodities.

Rationale: Tolerances for these items are necessary because they were never established for these registered uses. Pregrazing intervals are required to assure that illegal secondary residues of methyl parathion will not result in meat and milk.

h. Pregrazing intervals are also needed for the forages of corn, alfalfa, clover, sorghum, sunflower, and cotton. In addition, a pregrazing interval for forage and data and tolerance proposals for residues in or on peanut hay and forage are needed. Alternatively, feeding and grazing restrictions must be proposed for peanut hay and forage.

Rationale: As explained in item number "g" above, pregrazing intervals are necessary so illegal residues will not occur in meat and milk products since these commodities are fed to cattle.

i. Data and/or tolerance proposals are necessary and are described for specific crops below.

Data and tolerance proposals for residues in or on fodder and silage are needed.

Data and tolerance proposals for residues in or on silage and hay are needed for sorghum. Alternatively, feeding restrictions must be proposed for silage and hay.

Data and a tolerance proposal are needed for residues in or on alfalfa seed.

Separate tolerances must be established for clover forage and hay as well as for vetch forage and hay.

Residue data and a tolerance proposal are needed for peanut hulls.

Data and tolerance proposals for residues in or on sunflower and cotton forage are needed.

Data depicting residue and the nature of pyrolysis products levels in tobacco smoke are needed.

Data and a tolerance proposal are needed for residues in or on grass hay.

Rationale: The above commodities are deficient in supportive residue data. Subdivision O of the Pesticide Assesment Guidelines provide guidance regarding data and tolerance requirements for these various commodities.

j. Additionally, in regard to residue data and deficiencies, the following commodity definitions should be changed in 40 CFR 180.121 in keeping with presently accepted commodity definitions:

"Beets (with or without tops)" should be changed to "garden beet roots".

"Rutabagas (with or without tops)" should instead read "rutabaga roots".

"Turnips (with or without tops)" should be modified to "turnip roots".

"Pea forage" should be changed to "pea vines".

"Fresh alfalfa" should instead be "alfalfa forage".

Sale of Currently Registered Products

19. While data gaps are being filled, currently registered manufacturing use products (MPs) and end use products (EPs) containing methyl parathion as the sole active ingredient may be sold, distributed, formulated, and used, subject to the terms and conditions specified in this Standard. Registrants must provide or agree to develop the additional data as specified in the Data Tables A and B, in order to maintain existing registrations.

Rationale: Under FIFRA, the Agency does not normally cancel or withhold registration simply because data are missing or are inadequate. [See FIFRA, sec. 3(c)(2)(B) and 3(c)(7)] Issuance of this Standard provides a mechanism for identifying data needs. These data will be reviewed and evaluated to determine whether additional regulatory changes are necessary.

New food uses will not be processed until the problems relating to ADI are resolved.

B. CRITERIA FOR REGISTRATION

To be registered or reregistered under this Standard, products must contain methyl parathion as the sole active ingredient, bear required labeling, and conform to the product composition, acute toxicity limits, and use pattern requirements listed in this section.

C. ACCEPTABLE RANGES AND LIMITS

1. Product Composition Standard

To be registered or reregistered under this Standard, manufacturing-use products (MPs) must contain methyl parathion as the sole active ingredient. Each manufacturing-use product formulation proposed for registration must be fully described with an appropriate certification of limits, stating maximum and minimum amounts of the active ingredient and inert ingredients which are present in products, as well as impurities found at greater than 0.1 percent.

2. Acute Toxicity Limits

The Agency will consider registration of technical grade and manufacturing-use products containing methyl parathion provided that the product labeling bears appropriate precautionary statements for the acute toxicity category in which each product is placed.

3. Use Patterns

To be registered under this Standard, manufacturing-use products may be labeled for formulation into end-use products only for the sites and uses listed below. The EPA Compendium of Acceptable Uses lists all registered uses, as well as approved maximum application rates and frequencies.

-Terrestrial, non-domestic, food uses on:

Alfalfa, almonds, apples, apricots, artichokes, barley, beans, beets, birdsfoot trefoil (intrastate), broccoli, brussels sprouts, cabbage, carrots, cauliflower, celery, cherry, citrus (intrastate), clover, collards, corn, cotton, cotton, cucumber, eggplant, forage grass, garlic (special local need), gooseberries, grapes, hops, kale, kohlrabi, lentils (special local need), lettuce, melons, mustard greens, nectarines, oats, onions, pasture, peaches, peanuts, pears, peas, pecans, peppers, plums, potatoes, prunes, pumpkins, rangeland, rutabagas, rye, safflower, sorghum, soybeans, spinach, squash, strawberries, sugar beets, sunflowers, sweet potatoes, tomatoes, turnips, vetch, wheat.

-Terrestrial, non-domestic, non-food uses on:

Tobacco, jojoba (special local need), guayule (special local need), field grown ornamental flowering plants, chrysanthemums, daisies, marigolds, stock, forest, nonagricultural land, wastelands, forest and Christmas tree plantings (pine).

-Aquatic food crop uses on:

Rice

D. REQUIRED LABELING

All manufacturing-use products and end-use products must bear appropriate labeling as specified in 40 CFR 162.10, PR Notice 83-2, PR Notice 73-4, and below. Appendix II and Attachment I contain additional information on label requirements.

No pesticide product containing methyl parathion as an active ingredient may be released for shipment by the registrant after DEC 1 1987 unless the product bears an amended label which complies with the requirement of this Standard.

No pesticide product containing methyl parathion as an active ingredient may be distributed, sold, offered for sale, held for sale, shipped, delivered for shipment, or received and (having so received) delivered or offered to be delivered by any person after DEC 1 1988 unless the product bears an amended label which complies with the requirements of this Standard.

1. Ingredient Statement

The ingredient statement for manufacturing-use products must list the active ingredient as:

O,O-dimethyl-O-4-nitrophenyl phosphorothioate.

2. Use Pattern Statements

All manufacturing use products must state that they are intended for formulation into other manufacturing use products or end use products for those uses accepted by the U.S. EPA. A limiting factor will be data that support these use patterns. No use may be included on the label where the registrant fails to agree to comply with the data requirements in Table A and B for that use pattern.

3. Precautionary Statements

Labels for manufacturing-use products and end use products must bear statements reflecting the compound's acute human toxicity. All methyl parathion products except microencapsulated formulations with 22% or less active ingredient are in Toxicity Category I and must bear the signal word "DANGER". Microencapsulated products with 22% or less are in Toxicity Catagory II and must bear the signal word "Warning". The required precautionary associated with this category are specified in 40 CFR 162.10. Also, refer to PR Notice 73-4 regarding the required graphics, skull and crossbones and other precautionary labeling requirements that continue to remain in effect for the Toxicity Catagory I products.

4. Environmental Hazards Statements

The following revised environmental hazard statement must appear on all MUP labels:

> This pesticide is highly toxic to aquatic invertebrates. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or public waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the Environmental Protection Agency.

End-Use Products

Terrestrial Sites

> This pesticide is highly toxic to aquatic invertebrates and wildlife. Birds in treated areas may be killed.

Do not apply directly to water or wetlands (swamps, bogs, marshes and potholes). Runoff and drift from target areas may be hazardous to aquatic organisms in adjacent aquatic sites. Do not contaminate water by cleaning of equipment or disposal of wastes.

Aquatic Sites (Rice)

This pesticide is highly toxic to aquatic invertebrates and wildlife. Shrimp and other aquatic organisms may be killed at recommended application rates. Do not contaminate water by cleaning of equipment or disposal of wastes.

Aquatic Sites (Mosquito Larvicide)

This pesticide is highly toxic to aquatic invertebrates and wildlife. Shrimp and other aquatic organisms in treated waters may be killed. When treating lakes or other open bodies of water, apply only to shallow edges. Consult with state fish and game departments before applying to public waters. Do not contaminate water by cleaning of equipment or disposal of wastes.

Bee Precaution Labeling

Labeling for methyl parathion products intended for outdoor use should bear the following statement:

> This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

Auxiliary statements, to appear in the use directions for the particular crop or site, are required for the following crops:

a. Foliar application to alfalfa, peas, or beans:

"Do not apply if the crop or weeds in the treatment area are in bloom."

b. Foliar application to corn:

"Do not apply to corn during the pollen shed period.

c. Foliar application to listed fruit trees (apple, cherry, peach, plum, citrus):

> "Do not apply when trees or substantial numbers of weeds in the orchard (grove) are in bloom."

5. Endangered Species Restrictions

Please refer to Attachment I on page 71.

6. Worker Protection Statements

Pursuant to Pr Notice 83-2, for all end-use products, the general worker protection statements specified in that notice must appear on the labeling of outdoor agricultural use products which are applied to crops whose cultural practices include hand labor. In addition, the following reentry interval must be stated on the label:

> Reentry into treated fields is prohibited for 48 hours after application, unless all protective clothing and equipment required for early reentry as described elsewhere on the label are worn.

7. Restricted Use Statement

The following "Restricted Use Statement" must appear on the front panel of all end-use products.

> **RESTRICTED USE PESTICIDE**
>
> Due to very high acute toxicity to Humans and Birds
>
> For retail sale to and use only by certified applicator or persons under their direct supervision and only for those uses covered by the certified applicator's certification. Direct supervision for this product is defined as the certified applicator being physically present during application, mixing, loading, repair and cleaning of application equipment. Commercial certified applicators must also ensure that all persons involved in these activities are informed of the precautionary statements.

8. Work Safety Rules

The National Pesticide Telecommunication Network is available for recommendations regarding poisoning management, emergency treatment, and other information regarding the toxicity of methyl parathion. The toll free number for the National Pesticide Telecommunication Network is 1-800-858-7378.

If handled indoors provide mechanical exhaust ventilation. Keep all unprotected persons, children, livestock, and pets away from treated area or where there is danger of drift. Do not rub eyes or mouth with hands. If you feel sick in any way, STOP work and get help right away, See First Aid (Practical Treatment) section.

> HANDLE THE CONCENTRATE ONLY WHEN WEARING THE FOLLOWING PROTECTIVE CLOTHING AND EQUIPMENT:
>
> Wear a protective suit of one or two pieces that covers all parts of the body except the head, hands, and feet. Wear chemical resistant gloves, chemical resistant apron, and chemical resistant shoes, shoe coverings, or boots. Wear goggles or a face shield. Wear a pesticide respirator approved by the National Institute for Occupational Safety and Health under the provisions of 30 CFR part II.
>
> USE ONLY WHEN WEARING THE FOLLOWING PROTECTIVE CLOTHING AND EQUIPMENT DURING MIXING/LOADING, APPLICATION, REPAIR, AND CLEANING OF APPLICATION EQUIPMENT, DISPOSAL OF PESTICIDE AND EARLY REENTRY INTO TREATED AREAS: protective suit of one or two pieces covering all parts of the body except the head, hands, and feet; chemical resistant gloves; chemical resistant shoes (or chemical resistant shoe coverings or chemical resistant boots); goggles or face shield; hood or wide brimmed hat; NIOSH approved respirator.

IF MIXING/LOADING IS PERFORMED USING A CLOSED SYSTEM, THE FOLLOWING PROTECTIVE CLOTHING AND EQUIPMENT MAY BE WORN AS AN ALTERNATIVE: long-sleeve shirt; long-legged pants; chemical resistant gloves; chemical resistant apron; shoes and socks. Goggles or face shield must be worn when the system is under pressure. All other protective clothing and equipment required for use with open systems must be available nearby.

IF APPLICATION IS PERFORMED USING AN ENCLOSED CAB OR COCKPIT, THE FOLLOWING PROTECTIVE CLOTHING AND EQUIPMENT MAY BE WORN AS AN ALTERNATIVE: long-sleeve shirt and long-legged pants; shoes and socks. Chemical resistant gloves must be available in the cab or cockpit and must be worn during entry to and exit fro the application vehicle. All other protective clothing and equipment required for use during application must be available in the cab and must be worn when exiting the cab into treated area. When used for this purpose, contaminated clothing may not be brought back into the cab unless in an enclosure such as a plastic bag. REMEMBER-THIS CLOTHING IS INADEQUATE TO PROTECT YOU DURING REPAIR AND CLEANING OF APPLICATION EQUIPMENT AND EARLY REENTRY TO TREATED AREAS! REFER TO PROTECTIVE CLOTHING AND EQUIPMENT REQUIREMENTS ABOVE.

IMPORTANT! If pesticide comes in contact with skin, wash off with soap and water and contact a physician immediately. Always wash hands, face, and arms with soap and water before smoking, eating, drinking, or toileting.

AFTER WORK: before removing gloves, wash them with soap and water. Take off all work clothes and shoes. Shower using soap and water. Wear only clean clothes when leaving job--do not wear contaminated clothing. Personal clothing worn during work must be stored and laundered separately from protective clothing and household articles. Store protective clothing separately from personal clothing. Clean or launder protective clothing after each use. Respirators must be cleaned and filters replaced according to instructions included with the respirators. Protective clothing and protective equipment heavily contaminated or drenched with methyl parathion must be destroyed according to state and local regulations. HEAVILY CONTAMINATED OR DRENCHED CLOTHING CANNOT BE ADEQUATELY DECONTAMINATED. DURING AERIAL APPLICATION, HUMAN FLAGGERS ARE PROHIBITED.

9. Storage and Disposal Statements

All products must have the appropriate storage and disposal statements on the label. Refer to Appendix IV-4 for the appropriate statements.

V. PRODUCTS SUBJECT TO THIS STANDARD

All products containing one or more of the pesticides identified in Section II.A. are subject to certain requirements for data submission or changes in composition, labeling or packaging of the product. The applicable requirements depend on whether the product is a manufacturing or end use product and whether the pesticide is the sole active ingredient or one of multiple active ingredients.

Products are subject to this Registration Standard as follows:

A. Manufacturing use products containing this pesticide as the sole active ingredient are subject to:

1. The restrictions (if any) upon use, composition, or packaging listed in Section IV, if they pertain to the manufacturing use product.

2. The data requirements listed in Tables A and B[2]

3. The labeling requirements specified for manufacturing use products in Section IV.

4. Administrative requirements (application forms, Confidential Statement of Formula, data compensation provisions) associated with reregistration.

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[2] Data requirements are listed in the three Tables in Appendix I of this Registration Standard. The Guide to Tables in that Appendix explains how to read the Tables.

Table A lists generic data requirements applicable to all products containing the pesticide subject to this Registration Standard. Table B lists product-specific data applicable to manufacturing use products. The data in Tables A and B need not be submitted by a producer who is eligible for the formulator's exemption for that active ingredient.

Table C lists product-specific data applicable to end use products. The Agency has decided that, in most cases, it will not require the submission of product-specific data for end use products at this time. Therefore most Registration Standards do not contain a Table C.

B. Manufacturing use products containing this pesticide as one of multiple active ingredients are subject to:

The data requirements listed in Table A.

C. End use products containing this pesticide as the sole active ingredient are subject to:

1. The restrictions (if any) upon use, composition, or packaging listed in Section IV if they pertain to the end use product.

2. If eligible for the formulator's exemption[3], the data requirements listed in Table C.

3. If not eligible for the formulator's exemption, the data requirements listed in Table A and the data requirements listed in Table C.

4. The labeling requirements specified for end use products in Section IV.

D. End use products containing this pesticide as one of multiple active ingredients are subject to:

a. If not eligible for the formulator's exemption, the data requirements listed in Tables A and C.

b. If eligible for the formulator's exemption, the data requirements listed in Table C.

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[3] If you purchase from another producer and use as the source of your active ingredient only EPA-registered products, you are eligible for the formulator's exemption for generic data concerning that active ingredient (Table A) and product-specific data for the registered manufacturing use product you purchase (Table B).

Two circumstances nullify this exemption:

1) If you change sources of active ingredient to an unregistered product, formulate your own active ingredient, or acquire your active ingredient from a firm with ownership in common with yours, you individually lose the exemption and become subject to the data requirements in Table A.

2) If no producer subject to the generic data requirements in Table A agrees to submit the required data, all end use producers lose the exemption, and become subject to those data requirements.

VI. REQUIREMENT FOR SUBMISSION OF GENERIC DATA

This portion of the Registration Standard is a notice issued under the authority of FIFRA sec. 3(c)(2)(B). It refers to the data listed in Table A, which are required to be submitted by registrants to maintain in effect the registration of products containing this active ingredient.[4]

A. What are generic data?

Generic data pertain to the properties or effects of a particular active ingredient. Such data are relevant to an evaluation of all products containing that active ingredient regardless of whether the product contains other ingredients. (unless the product bears labeling that would make the data requirement inapplicable).

Generic data may also be data on a "typical formulation" of a product. "Typical formulation" testing is often required for ecological effects studies and applies to all products having that formulation type. These are classed as generic data, and are contained in Table A.

B. Who must submit generic data?

All current registrants are responsible for submitting generic data in response to a data request under FIFRA sec. 3(c)(2)(B) (DCI Notice). EPA has decided, however, not to require a registrant who qualifies for the formulator's exemption (FIFRA sec. 3(c)(2)(D) and § 152.85) to submit generic data in response to a DCI notice if the registrant who supplies the active ingredient in his product is complying with the data request.

If you are not now eligible for a formulator's exemption, you may qualify for one if you change your source of supply to a registered source that does not share ownership in common with your firm. If you choose to change sources of supply, the Confidential Statement of Formula must identify the new source(s) and you must submit a Formulator's Exemption Statement form.

If you apply for a new registration for products containing this active ingredient after the issuance of this Registration Standard, you will be required to submit or cite generic data relevant to the uses of your product if, at the time the application is submitted, the data have been submitted to the Agency by current registrants. If the required data have not yet been submitted, any new registration will be conditioned upon the new registrant's submission or citation of the required data not later than the date upon which current registrants of similar products are required to provide such data. See FIFRA sec. 3(c)(7)(A). If you thereafter fail to comply with the condition of that registration to provide data, the registration may be cancelled (FIFRA sec. 6(e)).

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[4] Registrations granted after issuance of this Standard will be conditioned upon submission or citation of the data listed in this Registration Standard.

C. What generic data must be submitted?

You may determine which generic data you must submit by consulting Table A. That table lists the generic data needed to evaluate current uses of all products containing this active ingredient, the uses for which such data are required, and the dates by which the data must be submitted to the Agency.

D. How to comply with DCI requirements.

Within 90 days of your receipt of this Registration Standard, you must submit to EPA a completed copy of the form entitled "FIFRA Section 3(c)(2)(B) Summary Sheet" (EPA Form 8580-1, enclosed) for each of your products. On that form you must state which of the following six methods you will use to comply with the DCI requirements:

1. You will submit the data yourself.

2. You have entered into an agreement with one or more registrants to jointly develop (or share in the cost of developing) the data, but will not be submitting the data yourself. If you use this method, you must state who will submit the data on which you will rely. You must also provide EPA with documentary evidence that an agreement has been formed which allows you to rely upon the data to be submitted. Such evidence may be: (1) your letter offering to join in an agreement and the other registrant's acceptance of your offer, (2) a written statement by the parties that an agreement exists, or (3) a written statement by the person who will be submitting the data that you may rely upon its submission. The Agency will also require adequate assurance that the person whom you state will provide the data is taking appropriate steps to secure it. The agreement to produce the data need not specify all of the terms of the final arrangement between the parties or a mechanism to resolve the terms.

3. You have attempted to enter into an agreement to jointly develop data, but no other registrant has accepted your offer. You request that EPA not suspend your registration for non-compliance with the DCI. EPA has determined that, as a general policy, it will not suspend the registration of a product when the registrant has in good faith sought and continues to seek to enter into a data development/cost sharing program, but the other registrants developing the data have refused to accept its offer. [If your offer is accepted, you may qualify for Option 2 above by entering into an agreement to supply the data.]

In order to qualify for this method, you must:

1. File with EPA a completed "Certification of Attempt to Enter into an Agreement with other Registrants for Development of Data" (EPA Form 8580-6, enclosed).

2. Provide us with a copy of your offer to the other registrant and proof of the other registrant's receipt of your offer (such as a certified mail receipt). Your offer must, at a minimum, contain the following language or its equivalent:

> [Your company name] offers to share in the burden of producing the data required pursuant to FIFRA sec. 3(c)(2)(B) in the [name of active ingredient] Registration Standard upon terms to be agreed or failing agreement to be bound by binding arbitration as provided by FIFRA section 3(c)(2)(B)(iii).

The remainder of your offer may not in any way attempt to limit this commitment. If the other registrant to whom your offer is made does not accept your offer, and if the other registrant informs us on a DCI Summary Sheet that he will develop and submit the data required under the DCI, then you may qualify for this option. In order for you to avoid suspension under this method, you may not later withdraw or limit your offer to share in the burden of developing the data. In addition, the other registrant must fulfill its commitment to develop and submit the data.

4. You request a waiver of the data requirement. If you believe that a data requirement does not (or should not) apply to your product or its uses, you must provide EPA with a statement of the reasons why you believe this is so. Your statement must address the specific composition or use factors that lead you to believe that a requirement does not apply. Since the Agency has carefully considered the composition and uses of pesticide products in determining that a data requirement applies, EPA does not anticipate that many waivers will be granted. A request for waiver does not extend the timeframes for developing required data, and if your waiver request is denied, your registration may be suspended if you fail to submit the data.

5. You request that EPA amend your registration by deleting the uses for which the data are needed. You are not required to submit data for uses which are no longer on your label.

6. You request voluntary cancellation of the registration of your product(s) for which the data are needed.

E. Procedures for requesting a change in testing protocol.

If you will generate the required data and plan to use test procedures which deviate from (or are not specified in) either EPA's Pesticide Assessment Guidelines or the Reports of Expert Groups to the Chemicals Group, Organization for Economic Cooperation and Development (OECD) Chemicals Testing Programme, you must submit for EPA approval the protocols you propose to use.

You should submit your protocols before beginning testing and await EPA approval, because the Agency will not ordinarily accept as sufficient studies using unapproved protocols. A request for protocol approval will not extend the timeframe for submission of the data, nor will extensions generally be given to conduct studies due to submittal of inappropriate protocols.

F. Procedures for requesting extensions of time.

If you think that you will need more time to generate the data than is allowed by EPA's schedule, you may submit a request for an extension of time. Any request for a time extension which is made as an initial response to a section 3(c)(2)(B) request notice must be submitted in writing to the Product Manager listed at the end of this section and must be made before the deadline for response. Once dates have been committed to and EPA has accepted these commitments, any subsequent requests for a time extension must be submitted in writing to the Office of Compliance Monitoring.

EPA will view failure to request an extension before the response deadline as a waiver of any future claim that there was insufficient time to submit the data. While EPA considers your request, you must strive to meet the deadline for submitting the data.

The extension request should state the reasons why you believe that an extension is necessary and the steps you have taken to meet the testing deadline. Time extensions normally will not be granted due to problems with laboratory capacity or adequacy of funding, since the Agency believes that with proper planning these can be overcome. Time extensions may be considered when joint data development is planned, or when the Agency must approve a new or modified protocol before the study can be begun.

A request for an extension does not extend the timeframe for submission of the data. If EPA denies your request for a time extension and you do not submit the data as requested, EPA may begin proceedings to suspend the registrations of your products.

G. Existing stocks provision upon suspension or cancellation.

The Agency has determined that if a registration is suspended for failure to respond to a DCI request under FIFRA sec. 3(c)(2)(B), an existing stocks provision is not consistent with the Act. Accordingly, the Agency does not anticipate granting permission to sell or distribute existing stocks of suspended product except in rare circumstances. If you believe that your product will be suspended or cancelled and that an existing stocks provision should be granted, you have the burden of clearly demonstrating to EPA that granting such permission would be consistent with the Act. The following information must be included in any request for an existing stocks provision:

1. Explanation of why an existing stocks provision is necessary, including a statement of the quantity of existing stocks and your estimate of the time required for their sale or distribution; and

2. Demonstration that such a provision would be consistent with the provisions of FIFRA.

VII. REQUIREMENT FOR SUBMISSION OF PRODUCT-SPECIFIC DATA

Under its DCI authority, EPA has determined that certain product-specific data are required to maintain your registrations in effect. Product-specific data are derived from testing using a specific formulated product, and, unlike generic data, generally support only the registration of that product. All such data must be submitted by the dates specified in this Registration Standard.

If you have a manufacturing use product, these data are listed in Table B. If you have an end use product, the data are listed in Table C. As noted earlier, the Agency has decided that it will not routinely require product-specific data for end use products at this time. Therefore, Table C may not be contained in this Registration Standard; if there is no Table C, you are not required to submit the data at this time.

In order to comply with the product specific data requirements, you must follow the same procedures as for generic data. See Section IV.D, E, F, and G. You should note, however, that product chemistry data are required for every product, and the only acceptable responses are options IV.D.1. (submit data) or IV.D.6.(cancellation of registration).

Failure to comply with the product-specific data requirements for your products will result in suspension of the product's registration.

VIII. REQUIREMENT FOR SUBMISSION OF REVISED LABELING

FIFRA requires each product to be labeled with accurate, complete and sufficient instructions and precautions, reflecting the Agency's assessment of the data supporting the product and its uses. General labeling requirements are set out in 40 CFR 162.10 (see Appendix II - LABELING and SUMMARY). In addition, labeling requirements specific to products containing this pesticide are specified in Section IV.D of this Registration Standard. Applications submitted in response to this notice must include draft labeling for Agency review.

If you fail to submit revised labeling as required, which complies with 40 CFR 162.10 and the specific instructions in Section IV.D., EPA may seek to cancel or suspend the registration of your product under FIFRA sec. 6.

IX. INSTRUCTIONS FOR SUBMISSION

A. Manufacturing Use Products (MUPs) containing Methyl Parathion as sole active ingredient.

1. Within 90 days from receipt of this document, you must submit to the Product Manager in the Registration Division for each product subject to this Registration Standard:

a. The "FIFRA Section 3(c)(2)(B) Summary Sheet" (EPA Form 8580-1), with appropriate attachments.[5]

b. Confidential Statement of Formula (EPA Form 8570-4).

c. Formulator's Exemption Statement (EPA Form), if applicable.

d. Evidence of compliance with data compensation requirements of FIFRA sec. 3(c)(1)(D). Refer to 40 CFR 152.80-152.99.

2. Within 9 months from receipt of this document you must submit to the Product Manager:

a. Application for Pesticide Registration (EPA Form 8570-1).

b. Two copies of any required product-specific data (See Table B).

c. Three copies of draft labeling, including the container label and any associated supplemental labeling. Labeling should be either typewritten text on 8-1/2 x 11 inch paper or a mockup of the labeling suitable for storage in 8-1/2 x 11 files. The draft label must indicate the intended colors of the final label, clear indication of the front panel of the label, and the intended type sizes of the text.

d. Product Specific Data Report (EPA Form 8580-4).

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[5] If on the Summary Sheet, you commit to develop the data, present arguments that a data requirement is not applicable or should be waived, or submit protocols or modified protocols for Agency review, you must submit a copy of the Summary Sheet (and any supporting information) to the Office of Compliance Monitoring, which will be monitoring the data generated in response to this notice. This submission is in addition to responding to the Product Manager, and should be submitted to the Office of Compliance Monitoring at the address given at the end of this section. (Actual studies are not to be submitted to the Office of Compliance Monitoring.)

3. Within the times set forth in Table A, you must submit to the Registration Division all generic data, unless you are eligible for the formulator's exemption. If for any reason any test is delayed or aborted so that the schedule cannot be met, immediately notify the Product Manager and the Office of Compliance Monitoring of the problem, the reasons for the problem, and your proposed course of action.

B. Manufacturing Use Products containing Methyl Parathion in combination with other active ingredients.

1. Within 90 days from receipt of this document, you must submit to the Product Manager in the Registration Division:

a. FIFRA sec. 3(c)(2)(B) Summary Sheet, with appropriate attachments[5] (EPA Form 8580-1).

b. Confidential Statement of Formula (EPA Form 8570-4)

c. Formulator's Exemption Statement if applicable.

2. Within the time frames set forth in Table A, you must submit to the Registration Division all generic data, unless you are eligible for the formulator's exemption. If for any reason any test is delayed or aborted so that the schedule cannot be met, immediately notify the Product Manager and the Office of Compliance Monitoring of the problem, the reasons for the problem, and your proposed course of action.

C. End Use Products containing Methyl Parathion as sole active ingredient.

1. Within 90 days from receipt of this document, you must submit to the Product Manager in the Registration Division:

a. FIFRA Section 3(c)(2)(B) Summary Sheet, with appropriate attachments[5] (EPA Form 8580-1).

b. Confidential Statement of Formula (EPA Form 8570-4).

c. Formulator's Exemption Statement if applicable.

2. Within 9 months from receipt of this document you must submit to the Product Manager:

a. Two copies of any product-specific data, if required by Table C.

b. Product Specific Data Report (EPA Form 8580-4), if Table C lists required product-specific data.

c. Three copies of draft labeling, including the container label and any associated supplemental labeling. Labeling should be either typewritten text on 8-1/2 x 11 inch paper or a mockup of the labeling suitable for storage in 8-1/2 x 11 files. The draft labeling must indicate the intended colors of the final label, clear indication of the front panel of the label, and the intended type sizes of the text. End use product labeling must comply specifically with the instructions in Section IV (Regulatory Position and Rationale).

D. Intrastate Products containing Methyl Parathion either as sole active ingredient or in combination with other active ingredients.

These products are being called in for full Federal registration. Producers of these products are being sent a letter instructing them how to submit an application for registration.

E. Addresses

The required information must be submitted to the following address:

Dennis Edwards (PM-12)
Registration Division (TS-767C)
Office of Pesticide Programs
Environmental Protection Agency
401 M St., SW
Washington, D.C. 20460

The address for submissions to the Office of Compliance Monitoring is:

Laboratory Data Integrity Program
Office of Compliance Monitoring (EN-342)
Environmental Protection Agency
401 M St., SW
Washington, D.C. 20460.

METHYL PARATHION (LABELING INFORMATION FOR RANGE AND PASTURELAND)

ENDANGERED SPECIES RESTRICTIONS

The use of any pesticide in a manner that may kill or otherwise harm an endangered or threatened species or adversely modify their habitat is a violation of federal laws. The use of this product is controlled to prevent death or harm to endangered or threatened species that occur in the following counties or elsewhere in their range.

Before using this pesticide in these counties you must obtain the EPA Rangeland Endangered Species Bulletin. The use of this pesticide is prohibited in the below named counties unless specified otherwise in the Bulletin. The Rangeland Bulletin is available from either your County Agricultural Extension Agent, the Endangered Species Specialist in your State Wildlife Agency Headquarters or the appropriate Regional Office of either the U.S. Fish and Wildlife Service or the U.S. Environmental Protection Agency. THIS BULLETIN MUST BE REVIEWED PRIOR TO PESTICIDE USE.

STATE (Regional Office FWS/EPA) Species	COUNTY (unless specified otherwise)
ARIZONA (Albuquerque, N.M./San Francisco, CA.)	
Masked bobwhite	Pima, Santa Cruz
CALIFORNIA (Portland, OR./San Francisco, CA.)	
Santa Cruz long-toed salamander	Santa Cruz, Monterey
Delta green ground beetle	Solano
Valley elderberry longhorn beetle	Merced
Kern primrose sphinx moth	Kern
Aleutian Canada goose	Colusa, Merced, San Joaquin, Stanislaus
California condor	Monterey, San Benito, San Luis Obispo, Kings, Tulare, Kern, Santa Barbara, Ventura, Los Angeles, Fresno
Blunt-nosed leopard lizard	Kern, Kings, Fresno, Madera, Merced, Monterey, San Luis Obispo, Santa Barbara, Stanislaus, Tulare
FLORIDA (Atlanta, GA.)	
Eastern indigo snake	Statewide

STATE (Regional Office FWS/EPA) Species	County (unless specified statewide)
GEORGIA (Atlanta, GA.)	
Eastern indigo snake	S.E. Georgia
HAWAII (Portland, OR./Seattle, WA.)	
Hawaiian goose	Islands of Maui and Hawaii
IDAHO (Portland, OR./Seattle, WA.)	
Whooping crane	Caribou, Bear Lake and Bonneville
MISSISSIPPI (Atlanta, GA.)	
Mississippi sandhill crane	Jackson
NEW MEXICO (Albuquerque, N.M./Dallas, TX.)	
Socorro isopod	Socorro
New Mexican ridge-nosed rattlesnake	Hidalgo
TEXAS (Albuquerque, N.M./Dallas, TX.)	
San Marcos salamander	Hays
Houston toad	Bastrop, Burleson
UTAH (Denver, CO.)	
Desert tortoise	Washington
WYOMING (Denver, CO.)	
Whooping crane	Lincoln and Sublette

[METHYL PARATHION (LABELING INFORMATION FOR MOSQUITO LARVICIDE USES)]

ENDANGERED SPECIES RESTRICTIONS

The use of any pesticide in a manner that may kill or otherwise harm an endangered or threatened species or adversely modify their habitat is a violation of federal laws. The use of this product is controlled to prevent death or harm to endangered or threatened species that occur in the following counties or elsewhere in their range:

Before using this pesticide in the following counties you must first contact the Endangered Species Specialist in the appropriate Regional/Field Office of the U.S. Fish and Wildlife Service (FWS) indicated below. Specific information describing the locations of areas to be treated must be provided to FWS. Use of this product in the range of endangered species, as described by FWS, is prohibited.

Contact FWS Field Offices at the following numbers:

ARIZONA (Phoenix, AR, 602-241-2493)	
Yuma clapper rail	Mohave and Yuma
CALIFORNIA (Sacramento, CA, 916-978-4613)	
Aleutian Canada goose	Colusa, Merced, Stanislaus and Sutter
Salt Marsh harvest mouse	Alameda, Contra Costra and Marin
Clapper rail	Alameda, Contra Costra, Humbolt, Marin, Monterey, Napa, Solano, San Luis Obispo, San Mateo, Santa Clara and Sonoma
Yuma clapper rail	Imperial, Riverside and San Bernardino
Light-footed clapper rail	Orange, Los Angeles, San Diego, Santa Barbara and Ventura
California least tern	Alameda, Los Angeles, Orange, San Diego, San Mateo, Santa Barbara and Ventura
DISTRICT OF COLUMBIA (Annapolis, MD, 301-269-5448)	
Hay's Spring amphipod	Rock Creek Park
HAWAII (Honolulu, HA, 808-546-5608)	
Hawaiian gallinule	Island of Oahu
Hawaiian coot	Islands of Kauai, Maui, Molokai,
Hawaiian stilt	Islands of Kauai, Maui, Niihau and Oahu
IDAHO (Boise, ID, 208-334-1806)	
Whooping crane	Caribou, Bear Lake and Bonneville

KENTUCKY (Asheville, NC, 704-259-0321)	
Kentucky Cave shrimp	Edmundson and Hart
MISSISSIPPI (Jackson, MS, 601-960-4900)	
Mississippi sandhill crane	Jackson
NEW MEXICO (Albuquerque, NM, 505-566-2323)	
Socorro isopod	Socorro
VIRGINIA (Annapolis, MD, 301-269-5448)	
Madison Cave isopod	Augusta
WYOMING (Helena, MT, 406-449-5225)	
Whooping crane	Lincoln and Sublette

[METHYL PARATHION LABEL INFORMATION (CROP USES)

ENDANGERED SPECIES RESTRICTIONS

The use of any pesticide in a manner that may kill or otherwise harm an endangered or threatened species or adversely modify their habitat is a violation of federal laws. The use of this product is controlled to prevent death or harm to endangered or threatened species that occur in the following counties or elsewhere in their range.

Before using this pesticide in the following counties you must obtain the EPA Cropland Endangered Species Bulletin. The use of this pesticide is prohibited in these counties unless specified otherwise in the Bulletins. The EPA Bulletin is available from either your County Agricultural Extension Agent, the Endangered Species Specialist in your State Wildlife Agency Headquarters or the appropriate Regional Office of either the U.S. Fish and Wildlife Service (FWS) or the U.S. Environmental Protection Agency. THIS BULLETIN MUST BE REVIEWED PRIOR TO PESTICIDE USE.

STATE (Regional Office FWS) Species	COUNTY	
CALIFORNIA (Portland, OR.)		
Aleutian Canada goose	COLUSA	SUTTER
	MERCED	STANISLAUS
Blunt-nosed leopard lizard	FRESNO	MONTEREY
	KERN	SAN LUIS OBISPO
	KINGS	SANTA BARBARA
	MADERA	STANISLAUS
	MERCED	TULARE
Delta green ground beetle	SOLANO	
Kern primrose sphinx moth	KERN	
Santa Cruz long-toed salamander	MONTEREY	SANTA CRUZ
Valley elderberry longhorn beetle	MERCED SACRAMENTO	
FLORIDA (Atlanta, GA.)	DADE	PALM BEACH
Everglade kite	GLADES	BROWARD
TEXAS (Albuquerque, N.M.)	ARANSAS	GOLIAD
Attwater's greater prairie chicken	AUSTIN	REFUGIO
	COLORADO	VICTORIA
	FORT BEND	
Houston toad	BASTROP	BURLESON
San Marcos salamander	HAYS	
Texas blind salamander	HAYS	

[METHYL PARATHION LABEL INFORMATION (FOREST USES)

ENDANGERED SPECIES RESTRICTIONS

The use of any pesticide in a manner that may kill or otherwise harm an endangered or threatened species or adversely modify their habitat is a violation of federal laws. The use of this product is controlled to prevent death or harm to endangered or threatened species that occur in the following counties or elsewhere in their range.

Before using this pesticide in the following counties you must first contact the Endangered Species Specialist in the appropriate Regional/Field Office of the U.S. Fish and Wildlife Service (FWS) indicated below. Specific information describing the locations of areas to be treated must be provided to FWS. Use of this product in the range of endangered species, as described by FWS, is prohibited.

Contact FWS Field Offices at the following numbers:

ALABAMA (Jackson, MS, 601-960-4900)	
Red-cockaded woodpecker	Baldwin, Bibb, Calhoun, Chilton, Clay Cleburne, Covington, Escambia, Dale, Jefferson, Lawrence, Macon, Perry, Shelby, St. Clair, Talladega, Tuscaloosa and Winston
ARKANSAS (Jackson, MS, 601-960-4900)	
Red-cockaded woodpecker	Ashley, Calhoun, Clark, Columbia, Hempstead, Lafayette, Monroe, Ouachita, Polk, Scott and Union
FLORIDA (Jacksonville, FL, 904-791-2580)	
Red-cockaded woodpecker	Alachua, Baker, Bay, Brevard, Charlotte, Citrus, Clay, Columbia, Duval, Franklin, Glades, Gulf, Hernando, Highlands, Lee, Leon, Levy, Liberty, Marion, Martin, Okaloosa, Okeechobee, Osceola, Palm Beach, Pasco, St. Johns, Santa Rosa, Wakulla and Walton
GEORGIA (Jacksonville, FL, 904-791-2580)	
Red-cockaded woodpecker	Appling, Baldwin, Brantley, Charlton, Chattahoochee, Clarke, Clinch, Decatur, Floyd, Glynn, Grady, Harris, Jasper, Jenkins, Jones, Pierce, Putnam, Screven, Tattnall, Telfair, Thomas, Toombs, Turner, Ware, Washington and Wilkes
KENTUCKY (Asheville, NC, 704-259-0321)	
Red-cockaded woodpecker	Laurel and McCreary

LOUISIANA (Jackson, MS, 601-960-4900)	
Red-cockaded woodpecker	Allen, Beauregard, Bienville, Bossier, Caddo, Calcasieu, Catahoula, Claiborne, Grant, La Salle, Morehouse, Natchitoches, Ouachita, Rapides, St. Tammany, Tangipahoa, Union, Vernon and Washington
MARYLAND (Annapolis, MD, 301-269-5448)	
Red-cockaded woodpecker	Dorchester
MICHIGAN (E. Lansing, MI, 517-337-6650)	
Kirtland's warbler	Crawford, Kalkaska, Oscoda, Ogemaw, Roscommon and Wexford
MISSISSIPPI (Jackson, MS, 601-960-4900)	
Red-cockaded woodpecker	Choctaw, Copiah, Franklin, Harrison, Hinds, Jackson, Jones, Lauderdale, Leake, Madison, Marion, Noxubee, Oktibbeha, Pearl River, Scott, Smith, Stone, Wayne, Wilkinson and Winston
NORTH CAROLINA (Asheville, NC, 704-259-0321)	
Red-cockaded woodpecker	Beaufort, Bertie, Bladen, Brunswick, Cumberland, Gates, Harnett, Hertford, Hoke, Hyde, Jones, Montgomery, Moore, Northampton, Onslow, Pamlico, Perquimans, Pitt, Richmond, Wake and Wayne
OKLAHOMA (Tulsa, OK, 918-581-7458)	
Red-cockaded woodpecker	Bryan, Latimer, Le Flore, McCurtain, Pittsburg and Pushmataha
SOUTH CAROLINA (Asheville, NC, 704-259-0321)	
Red-cockaded woodpecker	Aiken, Barnwell, Beaufort, Berkeley, Calhoun, Charleston, Chesterfield, Clarendon, Colleton, Darlington, Dillon, Dorchester, Edgefield, Florence, Georgetown, Hampton, Horry, Laurens, Lee, Lexington, Orangeburg, Richland, Sumter and Williamsburg
TENNESSEE (Asheville, NC, 704-259-0321)	
Red-cockaded woodpecker	Blount, Campbell, Cumberland and Morgan
TEXAS (Houston, TX, 713-229-3681)	
Red-cockaded woodpecker	Angelina, Cass, Cherokee, Hardin, Houston, Jasper, Montgomery, Nacogdoches, Newton, Polk, Sabine, San Augustine, San Jacinto, Shelby, Trinity, Tyler and Walker
VIRGINIA (Annapolis, MD, 301-269-5448)	
Red-cockaded woodpecker	Prince George, Southampton, Surry and Sussex

GUIDE TO TABLES

Tables A, B, and C contain listings of data requirements for the pesticides covered by this Registration Standard.

Table A contains generic data requirements that apply to the pesticide in all products, including data requirements for which a "typical formulation" is the test substance.

Table B contains product-specific data requirements that apply only to a manufacturing use product.

Table C contains product-specific data requirements that apply only to an end use product.

The data tables are generally organized according to the following format:

1. Data Requirement (Column 1). The data requirements are listed in the order in which they appear in 40 CFR Part 158. The reference numbers accompanying each test refer to the test protocols set out in the Pesticide Assessment Guidelines, which are available from the National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161.

2. Test Substance (Column 2). This column lists the composition of the test substance required to be used for the test, as follows:

TGAI = Technical grade of the active ingredient
PAI = Pure active ingredient
PAIRA = Pure active ingredient, radio labeled
TEP = Typical end use formulation
MP = Manufacturing use product
EP = End use product

Any other test substances, such as metabolites, will be specifically named in Column 2 or in footnotes to the table.

3. Use pattern (Column 3). This column indicates the use patterns to which the data requirement applies. Use patterns are the same as those given in 40 CFR Part 158. The following letter designations are used for the given use patterns:

A = Terrestrial, food
B = Terrestrial, non-food
C = Aquatic, food
D = Aquatic, non-food
E = Greenhouse, food
F = Greenhouse, non-food
G = Forestry
H = Domestic outdoor
I = Indoor

Any other designations will be defined in a footnote to the table.

4. Does EPA have data? (Column 4). This column indicates one of three answers:

YES - EPA has data in its files that completely satisfy this data requirement. These data may be cited by other registrants in accordance with data compensation requirements of Part 152, Subpart E.

PARTIALLY - EPA has some data in its files, but such data do not fully satisfy the data requirement. In some cases, the Agency may possess data on one of two required species, or may possess data on one test substance but not all. The term may also indicate that the data available to EPA are incomplete. In this case, when the data are clarified, or additional details of the testing submitted by the original data submitter, the data may be determined to be acceptable. If this is the case, a footnote to the table will usually say so.

NO - EPA either possesses no data which are sufficient to fulfill the data requirement, or the data which EPA does possess are flawed scientifically in a manner that cannot be remedied by clarification or additional information.

5. Bibliographic citation (Column 5). If the Agency has acceptable data in its files, this column lists the identifying number of each study. This normally is the Master Record Identification (MRID) number, but may be a GS number if no MRID number has been assigned. Refer to the Bibliography Appendices for a complete citation of the study.

6. Must additional data be submitted? (Column 6). This column indicates whether the data must be submitted to the Agency. If column 3 indicates that the Agency already has data, this column will usually indicate NO. If column 3 indicates that the Agency has only partial data or no data, this column will usually indicate YES. In some cases, even though the Agency does not have the data, EPA will not require its submission because of the unique characteristics of the chemical; because data on another chemical can be used to fulfill the data requirement; or because the data requirement has been waived or reserved. Any such unusual situations will be explained in a footnote to the table.

7. Timeframe for submission (Column 7). If column 5 requires that data be submitted, this column indicates when the data are to be submitted, based on the issuance date of the Registration Standard. The timeframes are those established either as a result of a previous Data Call-In letter, or standardized timeframes established by PR Notice 85-5 (August 22, 1985).

8. Footnotes (at the end of each table). Self-explanatory.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

Guideline Citation and Name of Test	Test Substance[1]	Guidelines Status	Are Data Required? Yes	Are Data Required? No	Data Must Be Submitted Within Timeframes Listed Below[2]
§158.120 Product Chemistry					
Product Identity:					
61-2 - Description of Beginning Materials and Manufacturing Process	TGAI	R	☒	☐	6 Months
61-3 - Discussion of Formation of Impurities	TGAI	R	☒	☐	6 Months
Analysis and Certification of Product Ingredients					
62-1 - Preliminary Analysis	TGAI	CR	☒	☐	12 Months
Physical and Chemical Characteristics					
63-2 - Color	TGAI	R	☒	☐	6 Months
63-3 - Physical State	TGAI	R	☒	☐	6 Months
63-4 - Odor	TGAI	R	☒	☐	6 Months
63-5 - Melting Point	TGAI	R	☒	☐	6 Months
63-6 - Boiling Point	TGAI	R	☒	☐	6 Months

: :

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

Guideline Citation and Name of Test	Test Substance1/	Guidelines Status	Are Data Required? Yes	No	Data Must Be Submitted Within Timeframes Listed Below2/
§158.120 Product Chemistry (continued)					
Physical and Chemical Characteristics (continued)					
63-7 - Density, Bulk Density, or Specific Gravity	TGAI	R	☒	☐	6 Months
63-8 - Solubility	TGAI or PAI	R	☒	☐	6 Months
63-9 - Vapor Pressure	PAI	R	☒	☐	6 Months
63-10 - Dissociation constant	PAI	R	☒	☐	6 Months
63-11 - Octanol/water partition coefficient	PAI	R	☒	☐	6 Months
63-12 - pH	TGAI	R	☒	☐	6 Months
63-13 - Stability	TGAI	R	☒	☐	6 Months
Other Requirements:					
64-1 - Submittal of samples	TGAI, PAI	CR	☐	☒	

: :

1/ TGAI = Technical Grade of the Active Ingredient; PAI = Pure Active Ingredient; R = Required;
CR = Conditionally Required.

2/ Data must be submitted within the indicated timeframes, which begin on the date of the Guidance Document (see front cover for this date).

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

Data Requirements	Composition1/	Does EPA Have Data To Satisfy This Requirement? (Yes, No, or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(B)? Timeframes For Data Submission2/
§158.125 Residue Chemistry				
171-3 - Directions for Use	—	Yes	GS00153004	No
171-4 - Nature of Residue (Metabolism)				
- Plants	PAIRA	Partially	GS00153001	Yes3/ 18 Months
- Livestock	PAIRA and Plant Metabolites	Partially	00128039	Yes4/ 18 Months
171-4 - Residue Analytical Method				
- Plant residues	TGAI and Metabolites	Yes	00003724, 00035330 00073196 00080018 00085260, 00085261 00085262, 00101100 00101122, 00101124 00101213, 00102312 00102367, 00102376 00102414, 00112173 05004211	No5/
- Animal residues	TGAI and Metabolites	Yes	00047726, 00105217	No5/
171-4 - Storage Stability Data	PAI	Partially	00102314	Yes6/ 18 Months
171-4 - Magnitude of the Residue-Residue Studies for each Food Use				
- Root and Tuber Vegetables Group	TEP	Partially	00101095, 00102356 00102418, 00031669	Yes7/ 18 Months

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

Data Requirement	Composition[1]/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(B)? Timeframes for Data Submission[2]/
§158.125 Residue Chemistry (continued)				
171-4 - Magnitude of the Residue - Residue Studies (continued)				
- Leaves of Root and Tuber Vegetables Group	TEP	Partially	00101095, 00102418	Yes[8]/ 18 Months
- Bulb Vegetables Group	TEP	Partially	00102356	Yes[9]/ 18 Months
- Leafy Vegetables Group	TEP	No		Yes[10]/ 18 Months
- Brassica Leafy Vegetables Group	TEP	Partially	00061199, 00102356	Yes[11]/ 18 Months
- Legume Vegetables Group	TEP	Partially	00009821, 00009822 00031669, 00102417 00102370, 00137986 GS00153002, 00101100 00102314, 00102367	Yes[12]/ 18 Months
- Foliage of Legume Vegetables Group		Partially	00072376, 00102417 00102314, 00101100 00102367, 00102356	Yes[13]/ 18 Months
- Fruiting Vegetables Group (Except Cucurbits)	TEP	Partially	00102418, 00102292 00102415, 00102417	Yes[14]/ 18 Months
- Cucurbit Vegetables Group	TEP	No	00102356	Yes[15]/ 18 Months
- Pome Fruits Group	TEP	Partially	00047726, 00051649 00086695, 00102355	Yes[16]/ 18 Months

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

Data Requirement	Composition[1]/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(B)? Timeframes for Data Submission[2]/
§158.125 Residue Chemistry (continued)				
174-4 - Magnitude of the Residue-Residue studies (continued)				
- Stone Fruits Group	TEP	Partially	00102356, 00047726	Yes[17]/ 18 Months
- Small Fruits Group	TEP	Partially	00102417, 00102418	Yes[18]/ 18 Months
- Tree Nut Group	TEP	Partially	00102418, 00031669	Yes[19]/ 18 Months
- Cereal Grains Group	TEP	Partially	00051649, 00072376 00086695, 00085259 00085260, 00085261 00101096, 00053436 00081419, 00101098 00101213	Yes[20]/ 18 Months
- Forage, Fodder, and Straw of Cereal Grains Group	TEP	Partially	00051649, 00085261 00101096, 00053436 00081419, 00101098 00101213, 00072376	Yes[21]/ 18 Months
- Grass Forage, Fodder, and Hay Group	TEP	Partially	00102417	Yes[22]/ 18 Months
- Non-Grass Animal Feeds (Forage, Fodder, Straw, and Hay) Group	TEP	Partially	00035330, 00035332 00035890, 00047726 00072376, 00101221 00102356, 00104198	Yes[23]/ 18 Months

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

Data Requirement	Composition[1]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(B)? Timeframes for Data Submission[2]
§158.125 Residue Chemistry (continued)				
174-4 - Magnitude of the Residue-Residue studies (continued)				
- Miscellaneous Commodities				
- Artichoke	TEP	Partially	00102415	Yes[24] 18 Months
- Cottonseed	TEP	Partially	00008516, 00080018 00086695, 00099011 00101100, 00101122 00101226, 00101489 00102291, 00102314 00102362, 00102376 00105217, 00113173 GS00153003, 00153356	Yes[25] 18 Months
- Hops	TEP	No	-	Yes[26] 18 Months
- Mustard Seed	TEP	Yes	00003724	No
- Peanuts	TEP	Partially	00102418	Yes[27] 18 Months
- Rapeseed	TEP	Partially	00003724	Yes[28] 18 Months
- Safflower seed	TEP	No	-	Yes[29] 18 Months
- Sunflower seed	TEP	Partially	00031669, 01012312	Yes[30] 18 Months
- Tobacco	TEP	Partially	00102356	Yes[31] 18 Months

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

Data Requirement	Composition[1]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(B)? Timeframes for Data Submission[2]
§158.125 Residue Chemistry (continued)				
171-4 - Magnitude of the Residue in Food-producing animals meat, milk, poultry and eggs	TGAI or plant/ animal metabolites	No		Reserved[32]
171-6 - Proposed Tolerance	Residue of Concern	No	-	Yes[33] 18 Months
171-13 - Submittal of Analytical Reference Standards	PAIRA	Reserved[34]	-	-

§158.125 Residue Chemistry (continued)

[1] Composition: TGAI = Technical grade of the active ingredient, PAIRA = Pure active ingredient, radiolabelled; TEP = Typical end-use product; EP = End-use product.

[2] Data must be submitted within the indicated timeframes, which begin on the date of the Guidance Document (see front cover for this date).

[3] Data are required reflecting the distribution and metabolism of ring-labeled ^{14}C- methyl parathion in cottonseed and cotton forage following foliar treatments, in potato-tubers following foliar treatments, and in lettuce following foliar treatments. If the metabolism of methyl parathion in these three crops differs significantly, then metabolism data will be required for one representative commodity from each crop group for which there are registered uses of methyl parathion.

[4] Metabolism studies are required utilizing ruminants and poultry. Animals must be dosed for 3 days with uniformly phenyl-labeled [^{14}C] methyl parathion at a concentration in the total diet which will result in sufficient residues in the tissues, milk, and eggs for characterization. Animals must be sacrificed within 24 hours of the final dose (milk and eggs must be collected twice daily). ^{14}C-Residues must be characterized in muscle, fat, kidney, liver, milk, and eggs.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

5/ If additional metabolites of concern are detected in plants and/or if tolerances must be proposed for residues in animal products, additional data may be required.

6/ The storage intervals and conditions of storage of samples of raw agricultural commodities used to support the established tolerances for residues of methyl parathion must be submitted. These data must be supported by information depicting the percent decline in residues of methyl parathion at the times and under the conditions specified. All residue data requested in this standard must be accompanied by data regarding storage length and conditions of storage of samples analyzed. These data must be accompanied by data depicting the stability of residues under the conditions and for the time intervals specified. On receipt of the above data, the adequacy of the aforementioned tolerances will be reevaluated.

7/ A group tolerance is not appropriate at the present time because methyl parathion use patterns on the commodities in this group differ significantly in that the maximum registered rates differ up to a factor of four. Tolerances for residues in or on sugar beets, potatoes, and sweet potatoes (0.1 ppm) differ by more that a factor of five from the tolerances for residues in or on the remaining commodities in this crop group (1 ppm). Additional data are required for residues in/on garden beet roots, carrots, potato tubers, rutabagas roots, sugar beet roots, sweet potatoes, and turnip roots.

a. Data are required for methyl parathion residues of concern in or on garden beet roots as follows:

Depiction of residues of concern 21 days after the last of several foliar applications at 7-day intervals of, in separate tests, a Dust (D) formulation at 0.63 lb ai/A, a Wettable Powder (WP) formulation a 1 lb ai/A, and an Emulsifiable Concentrate (EC) formulation at 1 lb ai/A. An analogous set of tests must be conducted depicting residues of concern 15 days after application of 0.5 lb ai/A of of the D, WP, and EC formulations, in separate tests: applications prior to the last one should be made at 7-day intervals at the respective maximum registered uses of 0.63, 1, and 1 lb ai/A. Separate tests must be conducted in CA (including irrigated regions), NY, OR, TX, and WI.
A label restriction must be proposed which gives the maximum number of applications allowed per season for foliar treatments; the data required above must reflect the proposed number.

b. Data for methyl parathion residues of concern in or on carrots are required as follows:

Depiction of residues of concern 15 days after the last of several foliar applications at 7-day intervals of, in separate tests, a D, WP and EC formulation at 1 lb ai/A/ application. Tests must be

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

conducted with both aerial and ground equipment in separate tests. Tests with EC and WP formulations must include ULV applications. Tests must be conducted in CA (including irrigated regions), MI, TX, and WA.

A label restriction must be proposed which specifies the maximum number of applications allowed per season; the data required above must reflect that number.

c. Data are required depicting methyl parathion residues of concern in or on potato tubers as follows:

Depiction of residues of concern 5 days after the last of several foliar applications at 7-day intervals of, in separate tests, a EC and a WP formulation at 1.5 lb ai/A. Separate tests must be conducted with ground and ULV aerial equipment. Tests must be conducted in CA (including irrigated regions), FL, ID, ME, and WI.

A label restriction must be posed which gives the maximum number of applications allowed per season for foliar applications; the data required above must reflect that number.
Residues must be determined in granules, chips, and dried potatoes processed from tubers bearing measurable weathered residues. If residues are found to concentrate in any of these processed products, appropriate food additive tolerances must be proposed.

d. Data depicting methyl parathion residues of concern on or in rutabagas roots are required as follows:

Depiction of residues of concern 21 days after the last of several foliar applications at 7-day intervals of, in separate tests, EC and WP formulations at 1.5 lb ai/A. Also, data must be submitted depiciting residues in or on rutabaga roots harvested 7 days after the last of two foliar applications of an EC formulation at 0.5 lb ai/A which were preceded by several foliar applications, a 7-day intervals, at 1.5 lb ai/A up to 21 days before harvest. Both ground and ULV aerial equipment must be used, in separate tests. Tests must be conducted in MN, WI, and WA.

A label restriction must be proposed which gives the maximum number of applications allowed per season for foliar treatments; the data required above must reflect the proposed number.

e. Data depicting methyl parathion residues of concern in or on sugar beet roots are required as follows:

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

Depiction of residues of concern 20 days after the last of several foliar applications at 7-day intervals of, in separate tests, EC and WP formulations at 0.375 lb ai/A. Both ground and ULV aerial equipment must be used, in separate tests. Tests must be conducted in CA (including irrigated regions), ID, MN, and ND.

A label restriction must be proposed which gives the maximum number of applications allowed per season for foliar treatments; the data required above must reflect the proposed number.

Residues must be determined in dehydrated pulp, molasses, and refined sugar processed from roots bearing measurable weathered residues. If residues are found to concentrate in any of these processed products, appropriate food/feed additive tolerances must be proposed.

f. Data depicting methyl parathion residues of concern in or on sweet potatoes are required as follows:

Depiction of residues of concern 5 days after the last of several foliar applications at 7-day intervals using, in separate tests, an EC and a WP formulation at 0.8 lb ai/A. Both ground and ULV aerial treatments must be represented. Tests must be conducted in CA (including irrigated regions) and NC.

A label restriction must be prepared limiting the number of permissible foliar applications per season; the data requested above must reflect that number.

g. Data are required depicting methyl parathion residues of concern in and on turnip roots as follows:

Depiction of residues of concern 15 days after the last of several foliar applications at 7-day intervals of, in separate tests, EC and WP formulations at 0.8 lb ai/A. Also, data must be submitted depiciting residues in or on turnip roots harvested 7 days after several foliar applications of an EC and WP formulations, in separate tests, at 0.5 lb ai/A (prior applications should be made at 7-day intervals at the maximum rate). Both ground and ULV aerial equipment must be used, in separate tests. Tests must be conducted in CA (including irrigated regions), GA, PA, TX, and WA.

A label restriction must be proposed which gives the maximum number of applications allowed per season for foliar applications; the data required above must reflect that number.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

8/ A group tolerance is not appropriate at the present time because methyl parathion use patterns for the commodities in this group differ significantly in that the maximum registered rates differ up to a factor of four. Tolerances for residues of methyl parathion in or on beet greens and turnip greens (1 ppm) differ by more than a factor of five from the established tolerance for residues in or on sugar beet tops. Additional data are required for garden beet tops, sugar beet tops and turnip greens.

a. Data are required depicting methyl parathion residues of concern in or on garden beet tops as follows:

Depiction of residues of concern 21 days after the last of several foliar applications at 7-day intervals of, in separate tests, a WP and EC formulations at 1 lb ai/A. Both ground and ULV aerial equipment must be used, in separate tests. Tests must be conducted in CA (including irrigated regions), NY, OR, TX, and WI.

A label restriction must be proposed which gives the maximum number of applications allowed per season for foliar applications; the data required above must reflect that number.

b. Data are required depicting methyl parathion residues of concern in or on sugar beet tops as follows: Depiction of residues of concern 60 days after the last of several foliar applications at 7-day intervals of, in separate tests, a WP and EC formulation at 0.375 lb ai/A. Separate tests must be conducted with ground and ULV aerial applications. Tests must be conducted in CA (including irrigated regions), ID, MN, and ND.
A label restriction must be proposed which gives the maximum number of applications allowed per season for foliar applications; the data required above must reflect that number.

c. Data are required depicting methyl parathion residues of concern in and on turnip tops as follows:

Depiction of residues of concern 21 days after the last of several foliar applications at 7-day intervals of, in separate tests, a WP and EC formulation at 0.8 lb ai/A. Residues must also be determined 7 days after the last of two foliar applications of an EC and a WP formulation, in separate tests, at 0.5 lb ai/A: these applications must be preceded by several applications, up to 21 days before harvest, made at 7-day intervals at the maximum rate (0.8 lb ai/A). Tests must be conducted in CA (including irrigated regions), GA, PA, TX, and WA.

A label restriction must be proposed which gives the maximum number of applications allowed per season for foliar applications; the data required above must reflect that number.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

9/ A crop group tolerance is not appropriate at the present time because data must be submitted for onions (green and bulb) and one other commodity representative of this crop group.

a. Data are required depicting methyl parathion residues of concern in and on onion bulbs and green onions as follows:

Residue data for green and bulb onions harvested 15 days after the last of several (applied at 7-day intervals) ground and aerial foliar applications of, in separate tests, of an EC formulation at 1 lb ai/A, lb ai/A. Testing must be conducted in CA, MI, NY, OR, or WA, and TX for bulb onions, and AZ or NM, CA and NJ for green onions.

A label restriction must be proposed which gives the maximum number of applications allowed per season for foliar applications; the data required above must reflect that number.

10/ A leafy vegetable crop group tolerance is not appropriate at the present time because additional residue data are required for celery, leaf and head lettuce, and spinach.

a. Data are required depicting methyl parathion residues of concern in and on celery as follows: Data depicting residues of concern in or on celery after multiple foliar applications by ground and aerial equipment (in separate trials) at 7-day intervals are needed. Data are required for representative D, WP and EC formulations at 1.0 lb ai/A applied in separate treatments and with side-by-side formulation comparisons (EC versus D or WP in a given location) from several trials. Samples must be collected 15 days after the last application. Geographic distribution must include CA (central and southern coast locations) and FL for fall-winter crops, and CA, MI and NY for spring-summer crops.

Label restrictions must be proposed limiting the number of foliar applications permitted per season; the above-requested data must reflect these numbers.

b. Data are required depicting methyl parathion residues of concern in and on leaf and head lettuce as follows:

Data reflecting residues of concern in or on leaf and head lettuce after multiple foliar applications by ground and aerial equipment (in separate trials) at 7-day intervals are needed. Data from EC, D, and WP treatments applied at 1 lb ai/A, are required, with formulation comparisons (EC versus D or WP in a

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

within a trial) from several locations. Samples must be collected 21 days after the last application.

Geographic distribution must include AZ, CA (central), FL, MI, or WI, NJ or NY, and TX.

Label restrictions must be proposed limiting the number of foliar applications permitted per season; the above-requested data must reflect these numbers.

c. Data are required depicting methyl parathion residues of concern in and on spinach as follows:

Data reflecting residues of concern in or on spinach harvested 15 days after the last of several foliar applications of D, WP and EC formulations, in separate treatments, applied by ground and aerial equipment (in separate trials) at 7-day intervals are needed. The final application must be made at 0.5 lb ai/A with all previous applications at 1 lb ai/A (WP and EC) or 0.75 lb ai/A (D). In addition, data depiction residues in or on spinach harvested 21 days after the last of several foliar ground and aerial applications (in separate tests) using WP and EC formulations at 1 lb ai/A in separate treatments. Geographic distribution must include CA (central and southern coast locations), CO, TX and MD or NJ or VA.
Label restrictions must be proposed limiting the number of foliar applications permitted per season; the above-requested data must reflect these numbers.

11/ A Brassica leaf vegetable crop tolerance is not appropriate at the present time because additional data are required to support established tolerances for residues in or on broccoli, cabbage, and mustard greens.

a. Data are required depicting methyl parathion residues of concern in and on broccoli as follows:

Data depicting residues of concern in or on broccoli harvested 21 days after the last of several foliar sprays using WP and, in separate tests, EC formulations applied at 7-day intervals by ground and aerial equipment, in separate trials, at 1.5 lb ai/A. Tests must also depict residues in or on broccoli harvested 7 days after the last of two applications of a D, WP, and EC formulation, in separate tests, at 0.5 lb ai/A; these applications must be preceded by several foliar applications applied at 7-day intervals at maximum registered rates (1.5 lb ai/A for WPs and ECs; 1 lb ai/A for Ds). Again, both aerial and ground application data are required. Geographic distribution must include CA (Imperial Valley) an TX for winter-grown crops, and CA (central coast) and OR for summer-grown crops.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

Label restrictions must be proposed limiting the number of foliar applications permitted per season; the above-requested data must reflect these numbers.

b. Data are required depicting methyl parathion residues of concern in and on cabbage as follows:

Data depicting residues in or on cabbage (with and without wrapper leaves), harvested 21 days after several foliar applications of WP, EC, and Mcap formulations, in separate tests, at 7-day intervals, at a rate of 1.5 lb ai/A application. Trials must also be conducted in which cabbage (with and without wrapper leaves) samples are collected 10 days after an application of, in separate trials, D, WP, and EC formulations at 0.5 lb ai/A; the final application must be preceded by several foliar applications applied at 7-day intervals at maximum registered rates (1.5 lb ai/A for WP and EC; 1 lb ai/A for D). Both aerial and ground application equipment must be used in these trials, separately. Data are needed from winter/ spring-planted crops in FL and TX and from summer/fall in CA, NC or NJ, NY (upstate) and WI.

The registrant(s) must also propose label restrictions limiting the number of foliar sprays permitted per crop, which must be supported by the requested residue data.

c. Data are required depicting methyl parathion residues of concern in and on mustard greens as follows:

Data depicting residues of concern in or on mustard greens after the last of several foliar applications at 7-day intervals by ground or aerial equipment, in separate trials, of an EC formulation at 1.5 lb ai/A. Trials must also be conducted in which samples are collected 10 days after an application of, in separate tests, a D, WP and an EC formulation at 0.5 lb ai/A; this application must be preceded by several foliar applications made at 7-day intervals at maximum rates (1.5 lb ai/A [EC]; 1.0 lb ai/A [WP]; 0.75 lb ai/A [D]. Separate tests must reflect aerial and ground applications. Trial locations must include CA, FL, LA or MS or TN, MI or OH, and TX.

A label restriction must be proposed limiting the number of permissible foliar applications and the number of permissible postplant broadcast soil applications to kale and mustard greens; the above requested data must reflect the proposed numbers.

12/ A crop group tolerance is not appropriate at the present time because additional data are required for residues in or on succulent beans, dried beans (Phaseolus Spp.), succulent peas, dried peas, and soybeans and the tolerances for residues in or on beans, peas, and lentils (1 ppm) are >5x those for guar beans (0.2 ppm) and soybeans 0.1 ppm).

a. The established tolerance for residues in or on "beans" is inappropriate. The following data are required:

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

Depiction of residues of concern in or on green lima beans (beans plus pods) after a series of foliar applications at 7-day intervals, using ground and aerial equipment, in separate tests, as follows: (i) 15 days after the last application of Mcap formulation at 1 lb ai/A and (ii) 21 days after the last application of, in separate tests, an EC and a WP formulation at 1.5 lb ai/A. For snap beans, tests must be conducted in CA, FL, NY, OR, and WI. For lima beans, tests must be conducted in CA and DE.

Depiction of residues of concern in or on dried beans 15 days after the last of a series of foliar application of, in separate tests, an EC and a WP formulation at 1.5 lb ai/A; both aerial and ground application equipment must be used, in separate trials. Tests must be conducted in CA, MI, NE, and ND.

Residues must be determined in cannery residue (both dried and snap beans) obtained from beans bearing measurable weathered residues; if residues in cannery residue exceed those found in or on beans, an appropriate feed additive tolerance must be proposed.

The registrant must propose separate tolerances for residues in or on dried, snap, and lima beans and approproate tolerance revisions (magnitude) if the data requested indicate toleranceexceeding residues.

A label restriction must be proposed which gives the maximum number of applications allowed per season for foliar applications; the data required above must reflect that number.

b. The available data support the established tolerance covering residues of methyl parathion in or on guar beans. However, additional data are needed to determine whether a feed additive tolerance is needed for residues in milled products. Thus the following must be submitted:

Residues of concern must be determined in milled products (including guar gum and meal) processed from guar beans bearing measurable weathered residues; if resiudes in milled products exceed those found in or on guar beans, then an appropriate feed additive tolerance must be proposed.

c. The established tolerance for methyl parathion residues in or on lentils is not appropriate. Therefore, the following data are required:

Residues of concern must be determined in or on lentils harvested 15 days after the last of several foliar aerial applications of the Mcap folmulation at 0.5 lb ai/A in 5 gal water/A. Trials must be conducted in ID and WA, the only states in which use of methyl parathion on lentils is permitted.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

The registrant must also propose a label amendment limiting the number of permissible applications per season to lentils; the maximum permissible number must be reflected in the data requested above.

d. The established tolerance for resiudes in or on "peas" is inappropriate. Separate tolerance must be established for residues in or on dried peas and succulent peas. The available data are sparse, with only a single sample of shelled peas being analyzed for residues following methyl parathion application. Therefore the following data are required:

Depiction of the residues of concern in or on dry peas and succulent peas after a series of foliar application at 7-day intervals as follows: 9i) 10 days after the last application of, in separate test, a D, EC, and WP formulation at 0.5 lb ai/A (applications made up to 15 days prior to harvest must be at 1 lb ai/A; and (ii) 15 days after the last application of, in separate tests, a D, EC, and WP formulation at 1 lb ai/A. All of the above application regimens must be conducted in separated tests with aerial and ground applications. ULV applications must be included in the required tests. Tests must be conducted in DE, MN, WA and WI.

The registrant must also propose a label amendment limiting the number of permissible foliar applications per season to peas; the maximum permissible number must be reflected in the data requested above. The registrant(s) must propose separate tolerances for residues in or on dried and succulent peas.

e. The available data are insufficient to support the established tolerance for methyl parathion residues in or on soybean seeds, for the following reasons: (i) no data were submitted depicting residues in or on soybeans following the the registered uses of the D or WP formulations; and (ii) insufficient or no information on sample storage conditions was available for all of the submitted tests. Furthermore, no data are available depicting residues of concern in soybean processed products. Therefore, the following additional data are required:

Depiction of methyl parathion residues of concern in or on soybeans (i) 20 days after two foliar application seven days apart, or a D formulation at 1 lb ai/A; and (ii) 15 days after, in separate tests, a foliar application at 0.5 lb ai/A of a D and a WP formulation (this application must be preceded, 5 days earlier, by an application at 1 lb/ai A (D formulation) or 0.5 lb ai/A (WP formulation).

Residue data from soybean hulls, meal, soapstock, crude oil, and refined oil processed from soybeans bearing measurable, weathered residues (exaggerated rates may be necessary to achieve these residues levels). If residues concentrate, then appropriate food/feed additive tolerances must be proposed.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

13/ A crop group tolerance for bean vines and hay is not appropriate at the present time for the following reason:
Additional data or grazing and feeding restrictions are required for bean vines, bean hay, pea vines, pea straw, soybean forage, and soybean hey; refer to the conclusions sections for bean vines and hay, pea vines and straw, and soybean forage, and hay for details.

The registrant(s) must either propose tolerances for residues in or on bean vines and hay and a pre-grazing restriction for bean vines or grazing and feeding restrictions. If the registrant(s) choose to

propose tolerances, additional data will be required since the available test data did not adequately reflect the full regimen of registered uses (or were inadequately described as to methods of treatment, sample collection, analysis, etc.) and no hay data were submitted. The following data are required:

a. Depiction of residues of concern in or on forage and hay of dried beans. Hay must be sampled 15 days after the last of a series of foliar applications of, in separate tests, and EC and WP formulation at 1.5 lb ai/A. Vines must be sampled at regular intervals after the final treatment, beginning on the day of final treatment. Tests must be conducted in CA, MI, NE, and ND. Tolerances for residues in or on bean vines and hay and a pregrazing interval for bean vines must be proposed. Alternatively, grazing and feeding restrictions must be proposed.

b. The submitted data concerning residues in or on pea vines are too spare to adequately evaluate the established tolerance. Also, no data are available depicting residues in or on pea straw. These data and a tolerance proposal are required since straw is a raw agricultural commodity of peas. The following data are required:

Depiction of the residues of concern in or on pea vines and straw after a series of foliar applications at 7-day intervals as follows: (i) 10 days after the last application of, in separate tests, a D, EC, and WP formulation at 0.5 lb ai/A (applications up to 15 days prior to harvest must be at 1 lb ai/A); and (ii) 15 days after the last application of, in separate tests, a D, EC, and WP formulation at 1 lb ai/A. Vines must be sampled at regular intervals after the final treatment, beginning on the day of final treatment. All of the above application regimens must be conducted in separate tests with aerial and ground applications. ULV applications must be included in the required tests. Tests must be conducted in DE, MN, WA, and WI.

A tolerance for residues in or on straw or a feeding restriction must be proposed. Also the 40 CFR entry of pea forage must be amended to pea vines, the appropriate commodity definition.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

The registrant must propose a label restriction limiting the number of permissible foliar applications per season to peas (currently only the Mcap formulation carries such a limitation); the data requested above must reflect that number.

c. The available data are insufficient to assess the established tolerance for methyl parathion residues in or on hay because only two residue values for hay were submitted. Furthermore, since forage and are raw agricultural commodities of soybeans, tolerances for residues in or on these commodities and a pregrazing interval for forage must be proposed; alternatively, feeding and grazing restrictions may

be proposed. The available data for forage are inadequate because no D or WP applications were represented. No data were submitted for straw. The following data are required:

Depiction of methyl parathion residues of concern in or on soybean hay and straw: (i) harvested 20 days after the last of two foliar applictions of in separate tests, Mcap, EC, and D formulations at 1 lb ai/A; and (ii) harvested 15 days after a foliar application of, in separate tests, an Mcap, EC, D, and WP formulation at 0.5 lb ai/A which was preceded by a foliar application made 5 days earlier at 1 lb ai/A (Mcap, EC, and D) or 0.5 lb ai/A (WP). Foliage must be collected at intervals following the last application in above tests using WP and D formulations. Aerial, ground, and ULV application data must be submitted. Tests must be conducted in GA, IL, IA, LA, MN, and NC. Tolerances must be proposed for residues in or on soybean forage and straw and a pregrazing interval must be proposed for forage; alternatively, feeding and grazing restrictions may be proposed.

14/ A crop group tolerance for fruiting vegetables is not appropriate at the present time for the following reasons:

Data depicting the residues of concern in or on tomatoes as specified in the tomatoes section. Residue data from various varieties (bell, chili) or peppers treated at 1.5 lb ai/A with an EC formulation in multiple foliar sprays applied at 7-day intervals by ground or aerial equipment in separate trials. Samplings at 15 days posttreatment are requested from winter trials in FL and TX, and summer trials in CA, KY, or MI or OH, and NJ.

The registrant(s) must propose label restrictions limiting the total number of applications per season, which must be supported by the data.

a. The data submitted for peppers are inadequate to assess the appropriateness of the established tolerance for methyl parathion residues. Data deficiences include: no data reflecting a fullseason application regimen at the maximum registered use rate; no aerial application data; inadequate geographic distri-

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

bution of trials; and insufficient test formulation, sample storage and analytical specifics. Because of sufficently different maximum label rates, the requested data from tomatoes will not be directly translatable therefore, the following data are required. [It should be noted that these data, per se would not be appropriate to support a crop group tolerance. Data requirements (for peppers) for establishing the crop group tolerance were specified in that section.]

Data for the residues of concern in or on various varieties (bell, chili) of peppers from sampled 15 days after multiple foliar applications at 7-day intervals by ground or aerial equipment in separate trials. Treatments should include EC, D and WP formulations applied at 1.0 lb ai/A in separate treatments and with side-by-side formulation comparisons (EC versus D or WP in a given location) from several locations. Field trials must be located in FL and TX for winter-grown crops and in CA, KY or MI or OH, and NJ for summer-grown crops.

The registrant(s) must propose label restrictions limiting the total number of foliar applications permitted per crop, which must be supported by the data.

b. The submitted data are not adequate to support the tolerance for methyl parathion residues in or on tomatoes. The following additional data must be submitted:

Data depicting the residues of concern in or on tomatoes harvested 15 days after multiple foliar application at 7-day intervals by ground and aerial equipment (in separate trials) from separate treatments of an EC and WP at 1.5 lb ai/A, and of the Mcap and a D at 1.0 lb ai/A. Also, data are needed from tomatoes sampled 10 days after a final application of EP, Mcap, WP or D (in separate treatments) at 0.5 lb ai/A, applied 7 days afrer a full-season treatment regimen of either the EC or Mcap at 1.5 lb ai/A applied at 7-day intervals.

Trials should be conducted in central CA, southern (desert) CA, NJ, IN or MI or OH, and TX for spring-summer crops and in FL for winter-grown tomatoes.

Residue data from wet and dried pomace, puree, catsup and juice processed from tomatoes bearing measuarable weathered residues. Should residues concentrate in the processed tomato products, the registrant(s) must propose appropriate food/feed additive tolerances.

The registrant(s) must also propose label restrictions limiting the number of foliar applications permitted per season, which must be supported by the requested residue data.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

15/ A crop group tolerance for cucurbit vegetables is not appropriate at the present time because the registered use patterns of use for various crops within the group are too disimiliar.

a. There are insufficient data to assess the tolerance for methyl parathion in or on cucumbers. Therefore, the following data are needed:

Data for residues of concern in or on cucumbers harvested 10 days after treatment with an EC formulation at 1.0 lb ai/A in multiple foliar applications at 7-day intervals by ground or aerial equipment in separate trials. [Crossover data from D and WP formulations are exempted because their registered use rates (<0.25 lb ai/A) are sufficiently lower than the required EC rate.] Trials are required from CA, FL, MD, or NJ, MI or OH, NC or SC, and TX.

The registrant(s) must also propose label restrictions limiting the number of foliar permitted per season, which must be supported by the requested residue data.

b. There are insufficient data to assess the tolerance for methyl parathion in or on melons. Therefore, the following data are needed:

Data are required depicting the residues of concern in or on cantaloupe from CA and TX, honeydew from AZ, and watermelon from FL, IN, and NC or SC. The crops should be treated with the EC at 0.164 lb ai/A in multiple foliar sprays at 7-day intervals using ground or aerial equipment (in separate trials), then sampled at 7-day posttreatment.

The registrant(s) must also propose label restrictions limiting the number of foliar applications permitted per season, which must be supported by the requested data.

c. No data were submitted for methyl parathion treated pumkins. Therefore, the following data are needed:

Data depicting the residues of concern in or on pumpkins harvested 10 days after multiple foliar sprays at 7-day intervals using the 3 lb/gal EC (multiple active ingredient product) at 0.24 lb ai/A. Treatments applied by ground and aerial equipment in separate trials are requested. Test distribution must include CA, IL, NJ, and NY.

The registrant(s) must also propose label restrictions limiting the number of foliar applications per season, which must be supported by the requested residue data.

§158.125 Residue Chemistry (continued)

d. Data are not available to assess the established tolerance for methyl parathion in or on squash. Therefore, the following data are required:

Data depicting methyl parathion residues of concern in or on of various varieties of squash, such as crookneck types, scallop types (white bush), vegetable marrow types (zucchini), and acorn or butternut types. The fruit should be treated with multiple foliar sprays (at 7-day intervals) of the EC at 0.15 lb ai/A by either ground or aerial application equipment (in separate trials), then harvested a 15days posttreatment. Trials should be conducted in CA, FL, MA, and MI.

The registrant(s) must also propose label restrictions limiting the number of foliar applications per season, which must be supported by the requested residue data.

16/ A crop group tolerance for pome fruits is not appropriate at the present time because residue data data and appropriate label restrictions must be submitted for apples (see Apple section for details). Data depicting the residues of concern in or on pears sampled 14 days after separate treatments with EC and WP formulations at 1 lb ai/100 gal, and with the Mcap at 2.0 lb ai/A (concentrate) in full-season application regimens (at 7-day application intervals) by ground and aerial equipment (at separate locations). Since it is unlikely that >500 gal/A will be applied to pears, we recommend that the EC and WP formulations be applied at 5 lb ai/500 gal/A. Side-by side formulation comparisons (EC versus WP versus Mcap in a given trial) at the specified maximum rates should be submitted from several locations. Also, data are needed from pears harvested 7 days after a final application of the Mcap at 1.0 lb ai/A, applied 7 days after multiple applications at 7-day intervals of the Mcap formulations at 2.0 lb ai/A (concentrate). Field trials must be done in CA, MI, NY, and WA or OR.

The registrant(s) must also propose label restrictions that are conistent for the crop group that limit the number and timing of foliar applications permitted per season, which must be supported by the requested data.

a. The submitted data are not adequate to support the established tolerance on apples. Therefore the following data are required:

Data depicting the methyl parathion residues of concern in or on apples sampled 14 days after separate treatments with an EC formulation at 1 lb ai/100 gal and with the Mcap at 2.0 lb ai/A (concentrate) in full-season application regimens (at 7-day application intervals) by ground and aerial equipment (at

§158.125 Residue Chemistry (continued)

separate locations). Since no more that 800 gal/A are likely to be applied to apples, 8 lb ai/800 gal/A of the EC formulation should be applied. Also, data are needed from apples harvested 7 days after a final spray of the Mcap at 1.0 lb ai/A (concentrate) applied 7 days after multiple applications at 7-day intervals of the Mcap formulation at 2.0 lb ai/A (concentrate). To provide adequate geographic trials must be conducted in CA, MI, NC, NY, PA or WV, and WA.

Data for methyl parathion residues in wet and dried pomace, and juice processed from apples bearing measurable weathered residues. Should residues concentrate in the processed apple products, the registrant(s) must propose appropriate food or feed additive tolerances.

The registrant(s) must also propose label restrictions limiting the number and timing of foliar applications permitted per season, which must be supported by the residue data.

17/ A crop group tolerance for stone fruits group is not appropriate at the present time for the following reasons:

Residue data from peaches and plums [see Peaches and Plums sections for details] must be submitted.

Residue data are needed from cherries harvested 15 days after the last several (maximum permissible number to be specified by registrant) foliar high-volume ground applications of an EC formulation at 0.5 lb ai/100 gal. [Since we expect that the maximum gal/A rate to achieve runoff in cherry orchards is 1000, 5 lb ai/A should be applied.] Tests must be conducted in WA, or OR, CA, and MI for sour cherries; and in MI, and UT, for sweet cherries.

a. The data are insufficient to assess the established tolerance for methyl parathion in or on peaches. Therefore, the following data are needed:

Residue data from peaches harvested 14 days after the last of several foliar high volume ground applications of a WP and an EC formulation in separate tests, at 1 lb ai/100 gal. [Since we expect the maximum gal/A rate to achieve runoff in peach orchards is 500, 5 lb ai/A should be applied.] These tests must be conducted in CA, and SC.

The registrant must also propose a maximum number of permissible seasonal applications to apricots, peaches and nectarines; this number must be supported by the data requested above.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

b. The data are insufficient to assess the established tolerance for methyl parathion in or on plums. Therefore, the following data are needed:

Data depicting residues in or on plums harvested 14 days after the last of several high-volume ground foliar applications of a WP and, in separate tests, and EC formulation at 1 lb ai/100 gal. [Since we expect no more than 500 gal/A will be needed to achieve runoff, 5 lb ai/A must be applied.] Tests must be conducted in CA, OR, WA, and ID.

The registrant must propose a label restriction limiting the number of permissible applications per season for foliar use on plums and cherries; the data required above must reflect that number.

Residues must be determined in prunes processed from plums bearing measurable weathered residues. If residues are found to concentrate in prunes, an appropriate food additive tolerance must be proposed.

18/ A crop group tolerance for small fruits is not appropriate at the present time for the following reasons:

Additional residue data are required to support the established tolerances for grapes, strawberries, and gooseberries.

a. No data were submitted pertaining to residues of methyl parathion in or on gooseberries. The following data are required:

Data depicting residues in or on gooseberries collected 15 days after multiple ULV aerial and, in separate tests, ground applications at seven day intevals of an EC at 0.5 lb ai/A. Tests must be conducted in MI, CA, and WA.

The registrant must propose a label restriction limiting the number of foliar applications to gooseberries; the data requested above must reflect the proposed maximum number of applications.

b. The submitted data do not support the established tolerance for residues of methyl parathion in or on grapes. Therefore, the following data are required:

Depiction of methyl parathion residues of concern in or on grapes harvested 14 days after the last of multiple applications at seven-day intervals of an Mcap formulation at 3 lb ai/A. Separate tests must be conducted with ground and aerial applications (including ULV aerial). Studies must be conducted in CA., and NY.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

The registrant must also propose a label restriction limiting the number of foliar applications permitted per season; the requested data must reflect this label restriction.

Data reflecting residues of concern in the processed products of grapes. Residue data should be obtained from raisins, raisin waste, juice, wet pomace and dried pomace, processed from grapes bearing measurable, weathered residues. If residues concentrate in any of these processed products, appropriate food/feed additive tolerances must be proposed.

c. The submitted data do not support the established tolerance for residues of methyl parathion in or on strawberries. Therefore, the following data are required.

Depiction of methyl parathion residues of concern in or on strawberries sampled 14 days after, in separate tests, the last of multiple foliar applications of an EC formulation and a WP formulation at 0.79 lb ai/A. Separate tests must also be conducted with ground and ULV aerial applications of these formulations.

The registrant must also propose a label restriction limiting the number of foliar applictions permitted per season; the requested data must reflect this label restriction.

19/ A crop group tolerance for tree nuts is not appropriate because a usage proposal and residue data for walnuts, almonds and pecans are needed.

The registrant(s) must propose consistent use patterns (rates, timing, total number of applications per season) and label restrictions for methyl parathion for all commodities of the group.

a. Data are insufficient to assess the adequacy of the established tolerances in or on almonds and almond hulls. Therefore, the following data are required:

Data depicting methyl parathion residues in or on almonds and almond hulls sampled after a full-season application regimen (through hull-split) at 6.0 lb ai/A applied at 7-day intervals by ground and aerial equipment in separate trials. Data from at least three locations (San Joaquin Valley, Sacramento Valley and central coast areas) in CA are requested.

The registrant(s) must also propose label restrictions limiting the number of foliar applications permitted per season, which must be supported by the requested residue data. The registrant(s) must also indicate the minimum PHI resultant from tying the Codex MRL final application to the hull-split growth stage.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

b. No residue data were submitted to support the existing tolerance for methyl parathion residues in or on pecans. The following data are required:

Data depicting methyl parathion residues of concern in or on pecans treated with the 3 lb/gal EC (MAI) at the maximum labeled rate in a full-season application regimen (through shuck-split) applied at 7-day intervals by ground and aerial equipment in separate trials. Data are requested from trials conducted in AL or GA, NM and OK or TX.

The registrant(s) must also propose label restriction limiting the number of foliar applications permitted per season; express the maximum application rate in lb ai/A or restrict the maximum spray volume if the rates are expressed in lb ai/100 gal; and indicate the minimum resultant PHI if the final application is tied to the shuck-split growth stage.

We recommend that the current label restriction against feeding treated shucks to livestock be deleted because pecan shucks are not fed to livestock.

20/ A crop grouping tolerance for cereal grains is not appropriate because the registered use patterns are too dissimilar and additional data are required for corn, rice, sorghum and wheat.

a. The available data are sufficient and adequate to support a 1 ppm tolerance for residues of methyl parathion in or on sweet corn (kernels plus cob, husk removed) harvested 3 days after multiple applications at rates through 1.0 lb ai/A applied at 2- to 5-day intervals. However, the registrant(s) must:

Propose a tolerance for residue of methyl parathion in or on sweet corn (kernels plus cob, husk, removed), per se. Propose label restrictions limiting the number of foliar applications allowed per season, and limiting the application interval to 2- to 7-day.

b. The available data are insufficient to assess the established tolerance for residues of methyl parathion in or on field corn. Therefore, the following data are required:

Data depicting methyl parathion residues of concern in or on field corn grain harvested 12 days after the final application of a full-season foliar treatment of the Mcap and EC formulations (in separate treatments) at 1.0 lb ai/A applied at 7-day intervals by ground and aerial equipment in separate trials.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

Comparative data from side-by-side treatments of the EC and Mcap from several trials are desireable. Data from ultralow volume, aerially applied treatments and chemigation (through sprinklers) treatments using the Mcap are needed from separate locations. Trials should be conducted in AL or GA, CA, IL, MN, NC or VA, NE, OH and TX.

The registrant(s) must propose a tolerance for residues of methyl parathion in or on field corn grain, *per se*.

Residues must be determined in the crude and refined oils and appropriate food additive tolerances must be proposed.

Additional residue data are required for wet and dry milled products processed from field corn grain bearing measurable weathered residues. If residues concentrate in any of the processed commodities, a food/feed additive tolerance must be proposed.

The registrant(s) must propose a label restriction limiting the number of applications per season, which must be supported by the requested residue data.

c. The data are insufficient to assess the established tolerance for residues of methyl parathion in or on rice. Therefore, the following data are required:

Data depicting the residues of concern in or on rough rice collected 15 days after a full-season treatment regimen (at 7-day intervals) applied by aerial equipment (applications by ground equipment are not needed). Data are needed from separate treatments of the Mcap and WP at 0.75 lb ai/A. Treatments with the EC at 0.79 lb ai/A are also required; however, if the registrant(s) elect to revise the EC labels to a maximum rate of 0.75 lb ai/A for consistence with the other formulations, the lower rate may be used. Trails should be conducted in AR, CA, LA and TX.

Residue data for the milled products of rice, including hulls, bran and polished rice, fractionated from rough rice bearing measurable weathered residues. Because the submitted data indicate that residues will concentrate in the hull fraction, we anticipate that appropriate food/feed additive tolerances will be needed.

The registrant(s) must also propose label restrictions limiting the number of foliar applications permitted per season, which must be supported by the requested data.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

d. The available data are inadequate to support the interim tolerance for residues of methyl parathion in or on rye. However, the residue data requested for wheat is translatable to rye.

The registrant(s) should propose an appropriate permanent tolerance for residues of methyl parathion in or on rye grain and, if warranted by the milling data, appropriate food and feed additive tolerances for residues in the milled products or rye. Further, we recommend that the current interim tolerance for residues of methyl parathion in or on rye be deleted from 40 CFR 180.139 when the permanent tolerance is established.

e. The available data do not support the established tolerance for methyl parathion residues in or on sorghum. Therefore, the following data are required:

Data depicting methyl parathion residues of concern in or on sorghum grain sampled 21 days after treatment with full-season application regimens of an EC at 1.0 lb ai/A applied at 7-day intervals by ground and aerial application equipment in separate tests. Tests must be conducted in KS or MO , NE or SD, NM or western TX, and southern TX.

Residues must be determined in the dry milled products [flour and fine grits (fine bran plus germ] and starch from sorghum grain bearing measurable weathered residues. If residues concentrate in these products, the registrant(s) must propose appropriate food additive tolerances (Milling residue data for corn may be translated to sorghum).

Data for methyl parathion residues in or on seeds of sweet sorghum (sorgo) are also required from field trials conducted in AL or GA or MS, and IA, using the test parameters prescribed for grain sorghum. Residue data are required for syrup processed from sweet sorghum bearing measurable weathered residues. A food additive tolerance will be required if processing results in residue concentration in the syrup. Alternatively, data for sweet sorghum and its processed commodity may be exempted if the registrant(s) submit an appropriate label restriction excluding methyl parathion use on sweet sorghum.

The registrant(s) must also propose label restrictions limiting the number of foliar applications permitted per season, which must be supported by the data.

f. The available data are not adequate to assess the tolerance for residues of methyl parathion in or on wheat. Therefore, the following data are required:

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

Data are required depicting the methyl parathion residues of concern in or on wheat sampled 15-days after two foliar sprays at 0.75 lb ai/A which were preceded by multiple applications of either a D, EC, or WP (in separate treatments) at 1.25 lb ai/A. A 7-day application interval is required as are ground and aerial treatments (in separate trials). Separate treatments using EC, Mcap, D, and WP formulations at 0.75 lb ai/A in the final sprays are needed. Field trials should be conducted in CA, KS or NE, MI or OH, NC or VA, ND, TX and WA.

Residue data are also required from wheat harvested immediately (0-day) after two treatments consisting of a given formulation (EC, WP, D and Mcap) at 0.25 lb ai/A applied 7 and 15 days after the multiple foliar sparys (7-day application interval) of the same formulation at 0.75 lb ai/A after heads form, but at 1.25 lb ai/A before heads form. Data should be sumbitted from such treatment regimens of all formulations (in separate treatments) from the geographic distribution presecibed above.

Residue data are required from wheat sampled at "normal" harvest following multiple applications at 1.25 lb ai/A at 7-day intervals through grain head formation. Data are required from separate treatments with EC, WP and D fromulations from the test locations specified above. The registrant(s) must submit label restrictions for this use that clarify the final application timing labeled as "after heads form" [ie, does this timing refer to grain heads still in the boot (Feekes stage 10.0) or to heads emerged from the boot (Feekes stages 10.1-10.5)]. The interval between this application timing and "normal" harvest must also be indicated and supported by the data.

Residue data are required for wheat bran, flour, middlings and shorts milled from grain bearing measurable weathered residues. Should resideues concentrate in the milled products, the registrant(s) must propose appropriate food/feed additive tolerances.

The registrant(s) must also propose label restrictions limiting the number of foliar applications permitted per season, which must be supported by the requested residue data.

21/ A crop group tolerance for the Forage, Fodder, and Straw of Cereal Grains is not appropriate at the present time for the following reasons:

Tolerances have not been established for residues of methyl parathion in or on: forage, hay and straw of barley, oats, rye and wheat; straw on rice; fodder and silage of corn; or hay and silage of sorghum.

Additional data are required to assess the established tolerances for residues in or on corn forage and sorghum forage and fodder.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

The registrant(s) must also propose label restrictions limiting the number of foliar applications allowed per crop, which must be supported by the requested residue data.

d. The available data are insufficient for a tolerance assessment for wheat forage, hay or straw. Therefore, because wheat forage, hay and straw are raw agricultural commodities the registrant(s) must either:

Propose feeding and grazing restrictions for wheat forage, hay and straw; or

Submit tolerance proposals, a pregrazing interval for forage, and data depicting the residues of concern in or on:

1. Wheat forage, hay and straw harvested immediately (0-day) after an application of an Mcap, EC, D and WP at 0.25 lb ai/A applied 7 days after multiple foliar sprays (7-day application interval) of the same formulation at 0.75 lb ai/A after the heads form but at 1.25 lb ai/A before the heads form. Data are needed fromsuch a treatment for each formulation type (in separate treatments) applied by ground and aerial equipment in separate tests from the geographic distribution outlined below.

2. Wheat hay and straw harvested 15 days after and forage harvested at various intervals after the last of two applications (of each formulation type in separate treatments) at 0.75 lb ai/A which were preceded by multiple applications (of either D, EC or WP formulation in separate treatments) at 1.25 lb ai/A. A 7-day application interval is required for all treatments. Aerial- and ground -applied treatments, in separate trials, are needed.

3. Wheat straw harvested at "normal" harvest following multiple applications (full-season treatment regimen) at 1.25 lb ai/A at 7-day intervals through grain head formation. Data are required from EC, D and WP formulations applied in separate treatments at several locations and from aerial- and ground-applied treatment locations. Field trials should be conducted in CA, KS or NE, MI or OH, NC or VA, ND, TX and WA.

The registrant(s) must also propose label restrictions clarifying the final application timing labelled as "after heads form" [i.e., does this timing refer to grain heads still in the boot (Feekes stage 10.0) emerged from the boot (Feekes stages 10.1 -10.5?]. The interval between this application timing and "normal" harvest must also be indicated and supported by the data.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

The registrant(s) must also propose label restrictions limiting the number of foliar applications permitted per season, which must be supported by the requested residue data.

22/ The Grass Forage, Fodder and Hay Group tolerance is not appropriate for the following reasons:

Data are required depicting the residues of concern in or on grass hay harvested fifteen days after the last of multiple foliars at 7-day application intervals of EC and Mcap formulations (in separate tests) at 0.79 and 0.75 lb ai/A respectively. Separate tests must be conducted using ground and aerial application equipment. Hay curing conditions and practices must be adequately described. Tests must be conducted at locations representative of bermudagrass (southern-southeastern U.S.), bluegrass (northeasternmidwestern U.S.) and bromegrass (upper midwestern and western U.S.) production regimens. Tests must be conducted under both irrigated and unirrigated production systems. A tolerance for residues in or on hay must be proposed.

The registrant(s) must also propose label restrictions limiting the number of foliar applications permitted per season, which must be supported by the requested residue data.

23/ The Non-Grass Animal Feeds (Forage, Fodder, Straw, and Hay) Group tolerance is not appropriate for the following reasons:

Additional residue data are required for alfalfa, a representative commodity (refer to the Alfalfa section).

Data are needed depicting residues of concern in or on clover forage and hay collected 15 days after a foliar appliction of, in separate tests, D, EC, and WP formulations at 1 lb ai/A, preceded by applications made up to 20 days prior to harvest at 7-day intervals at the maximum allowed rate of 1.25 lb ai/A.

Separate tests also must be conducted depicting residues 20 days after the last of multiple foliar applications at 1.25 lb ai/A for D, EC, and WP formulstions. Forage must be collected at intervals following the last treatment in all tests. These studies must include tests in which ground and ULV aerial applications made. Tests must be conducted in CA, IO, MN, NY, and WI. The registrant must limit the number of applications/ season and the data required must reflect that number. Also, pregrazing intervals for forage must be proposed.

a. The data do not adequately support the established tolerances for residues of methyl parathion in or on Alfalfa Forage and Hay. Therefore, the following data are required:

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

The registrant(s) must propose label restrictions limiting the number of foliar applications per season to alfalfa and establish pregrazing intervals for D, WP, and EC formulations equal to the PHIs. If the registrant(s) chooses to limit the number of applications to no more than two per season, then the presently avilable data provide adequate support for the tolerance for residues in or on hay and may be used to support a tolerance revision for residues in or on forage (increase). If the registrant(s) chooses to propose more than two applications per growing season, then the following data are needed:

Depiction of residues of concern are required in or on hay harvested 15 days after a foliar application of the D, EC, Mcap and WP formulations, in separate tests, at 1 lb ai/A preceded by a fullseason treatment regimen of multiple applications at 7-day intervals at 1.25 lb ai/A (D, EC, WP) or 1 lb ai/A (Mcap) up to 20 days prior to harvest. Forage should be collected 15 days after the last Mcap treatment and at intervals following the last D, WP and EC treatment.

Separate tests must also be conducted dipicting residues in or on hay harvested 20 days after the last of multiple foliar treatments of the D, EC, and WP formulations, in separate tests, at 1.25 lb ai/A. Forage should be collected at intervals following the final treatment. Pregrazing intervals must be proposed for D, WP and EC formulations. These studies must include test in which ground and ULV aerial applications are made. Tests must be conducted in CA (San Josquin Valley), CA (Imperial Valley) or AZ, ID, KS or OK, ND or SD, NY, OH and WI.

Data depicting residues of concern in or on alfalfa seed harvested on the day of the final application of a full-season treatment regimen consisting of treatments made at 7-day intervals using an EC formulation at 1.25 lb ai/A. Ground and aerial application equipment must be used in separate trials. Tests must be conducted in CA, WA, and NV.

24/ The established tolerance for residues of methyl parathion in or on artichokes is not sufficient. Therefore, the following data are required:

Residue data are required from artichokes harvested 7 days after the last of multiple applications at 7-day intervals of a WP, EC, D and encapsulated formulation at 1.0 lb ai/A, using high and low volume ground equipment for WP, EC and Mcap formulations. The tests must be conducted in CA.

The registrant must also propose a label amendment limiting the number of foliar applications per season. This number must be represented in the data requested above.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

25/ The established tolerance for residues of methyl parathion in or on cottonseed is not sufficient. Therefore, the following data are required:

Depiction of residues of concern are required in or on cotton forage harvested at intervals after, and mature cottonseed samples harvested seven days after the last of several foliar ground and aerial applications, in separate tests, of an EC formulation at 3 lb ai/A. Applications must be made three days apart. Residues in or on cottonseed must also be determined immediately after the last of two applictions made at 3-day intervals of, in separate tests, a D formulation at 1.5 lb ai/A and WP, EC, and Mcap formulations at 1 lb ai/A. These applications must be preceded by several applications, made at 3 day intervals up to 7 days prior to harvest, with the D, Mcap and WP formulations at 1.5 lb ai/A and the EC at 3 lb ai/A. Tests must be conducted in TX and CA or MS. A tolerance for residues in or on cotton forage and a pre-grazing interval must be proposed; alternatively, a feed restriction may be proposed.

Data depicting the residues of concern in meal, hulls, soapstock, and crude and refined oil, processed from cottonseed bearing measurable, weathered residues. Should residues concentrate in processed products, appropriate food/feed additive tolerances must be proposed. The registrant must also proposed a label restriction limiting the number of foliar applications permitted per season; the data requested above must reflect that number.

26/ No data were submitted to support the established tolerance for residues of methyl parathion in or on hops. The following data are required:

Data are required depicting the residues of concern in or on mature fresh hops harvested 15 days after the last of multiple applications of an EC and WP formulation, in separate tests, at 1 lb ai/A using, in separate tests, aerial and high low volume ground equipment. These tests must be conducted in WA, OR, or ID:

Data depicting the residues of concern in dried hops and spent hops processed from hops bearing measurable weathered residues. Should concentration of residues be found in the processed products, appropriate food/feed additive tolerances must be proposed.

The registrant(s) must propose a label restriction limiting the number of applications permitted per season; this number being reflected in above requested data.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

27/ The available data to support the established tolerance for residues of methyl parathion in or on peanuts are not sufficient. Therefore, the following data are required:

Residue data are required from peanuts (nutmeats), hulls, and hay harvested 15 days after the last of several foliar applications of an EC and D formulation (in separate tests) at 0.375 and 0.5 lb ai/A. These tests must utilize (separately aerial, and high and low volume ground equipment. Vines must be sampled at intervals following the last treatment. Tests must be performed in GA, or AL, NC, and TX.

Tolerances must be proposed for residues in or on peanut vines, hay, and hulls, and a pregrazing interval must be proposed for vines. If feeding and grazing restrictions are proposed, no data or tolerance proposals are required for vines or hay. Processing data for peanut meal, crude oil, soapstock, and refined oil to determine the concentration of residues upon processing. These data must be generated from peanuts bearing measurable, weathered residues.

The registrant(s) must propose a label restriction limiting the number of applications permitted per season; this number being reflected in above requested data.

28/ The available data are inadequate to support the established tolerance for residues of methyl parathion in or on rapeseed. Therefore, the following data are required:

Residue data are required from rape seed harvested 15 days after the last of several multiple applications of the 4 lb/gal EC formulation at 0.5 lb ai/A in 3 gal of water per acre. These tests must be conducted in ND by aerial application.

Data depicting residues in meal and oil processed from rapeseed bearing measurable weathered residues. Should residues be found to concentrate in rapeseed oil or meal, then appropriate food/feed additive tolerances must be proposed. (Note: Processing data for corn, cottonseed and peanuts may be translated to rapeseed).

The registrant must propose a label restriction limiting the number of foliar applications permitted to rape, with above requested data reflecting that number.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

29/ No data were submitted to support the established tolerance for residues of methyl parathion in or on safflower. The following data are required:

Residue data from safflower seed harvested after multiple foliar applications (up to flowering) with a WP and EC formulation, in separate tests, at 0.5 lb ai/A, utlizing, (in separate tests) aerial and ground (high and low volume) equipment. These tests must be conducted in CA, and MT.

Residue data are required from safflower seeds harvested 60 days after the last of two foliar aerial application a 1.5 lb/gal EC using 5 gal water/A. This test must be conducted in CA.

Processing data are required for safflower meal and oil utilizing safflower seeds bearing measurable, weathered residues. If residues concentrate upon processing, then appropriate food/feed additive tolerance must be proposed. (Note: Processing data for corn, cottonseed, and peanuts may be translated to safflower seed).

30/ The available data are inadequate to support the established tolerance for residues of methyl parathion in or on sunflower seeds. Therefore, the following data are required:

Residue data are required from sunflower seeds harvested 30 days and from forage harvested at intervals after the last of three foliar applications of an EC formulation at 1 lb ai/A, made at 5-day intervals, utilizing aerial and high and low volume ground equipment in separate tests. These tests must be conducted in ND. A tolerance for residues in or on forage and a pregrazing interval must be proposed. Alternatively, registrant(s) may place a grazing restriction on the label.

Processing data for sunflower meal, hulls, crude oil, and refined oil, processed from sunflowers bearing measurable, weathered residues are required. Should residues be found to accumulate upon processing, then appropriate food/feed additive tolerances must be proposed. (Note: Processing data for corn, cottonseed and peanuts may be translated to sunflower.)

31/ The available data are not sufficient to assess the exposure to man of residues of methyl parathion in or on tobacco. The following data are required:

Information indicating the formulation actually used to generate the submitted residue data and the mode of application used.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.125 Residue Chemistry (continued)

Pyrolysis products derived from methyl parathion treated tobacco must be characterized and the level of resiude in smoke must be quanitified. [14C-Ring labeled methyl parathion must be used for identification of pyrolysis products.]

The registrant(s) must propose a label restriction limiting the number of foliar applications permitted per season.

Information clarifying if residues were methyl parathion or ethyl parathion.

32/ These data are reserved pending the results of the requested animal metabolism data. These data will be evaluated to determine the need for tolerances in animal products, meat and milk, poultry and eggs.

33/ Tolerance petitions must be submitted for those commodities stated throughout the residue chemistry footnotes. However, since methyl parathion TMRC exceeds 100 percent of the ADI, the Agency will not accept any new uses or petitions for tolerances-either group tolerances or otherwise. Registrant(s) are urged to cancel uses and tolerances (especially tolerances which have no federal registrations) to reduce the ADI.

34/ If new metabolites are identified and a new analytical method is required, samples may be needed.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

Data Requirement	Composition1/	Use Pattern2/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(B)? Timeframes for Data Submission3/	
§158.130 Environmental Fate						
DEGRADATION STUDIES-LAB:						
161-1 - Hydrolysis	TGAI or PAIRA	A,B,C,G	No	-	Yes	9 Months
Photodegradation						
161-2 - In water	TGAI or PAIRA	A,B,C,G	No	-	Yes	9 Months
161-3 - On soil	TGAI or PAIRA	A,G	No	-	Yes	9 Months
161-4 - In Air	TGAI or PAIRA	A	No	-	Yes	9 Months
METABOLISM STUDIES-LAB:						
162-1 - Aerobic Soil	TGAI or PAIRA	A,B,G	No	-	Yes	27 Months
162-2 - Anaerobic Soil	TGAI or PAIRA	C	No	-	Reserved4/	
162-3 - Anaerobic Aquatic	TGAI or PAIRA	C	No	-	Yes	27 Months
162-4 - Aerobic Aquatic	TGAI or PAIRA	C	No	-	Yes	27 Months
MOBILITY STUDIES:						
163-1 - Leaching and Adsorption/Desorption	TGAI or PAIRA	A,B,C,G	No	-	Yes	12 Months
163-2 - Volatility (Lab)	TEP	A	No	-	Yes	12 Months
163-3 - Volatility (Field)	TEP	A	No	-	Yes	15 Months

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

Data Requirement	Composition1/	Use Pattern2/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(B)? Timeframes for Data Submission3/
§158.130 Environmental Fate (continued)					
DISSIPATION STUDIES-FIELD:					
164-1 - Soil	TEP	A,B	No	-	Yes 27 Months
164-2 - Aquatic (Sediment)	TEP	C	No	-	Yes 27 Months
164-3 - Forestry	TEP	G	No	-	Yes 27 Months
164-4 - Combination and Tank Mixes		N/R	-	-	No
164-5 - Soil, Long-term	TEP	A,C	No	-	Reserved5/
ACCUMULATION STUDIES:					
165-1 - Rotational Crops (Confined)	PAIRA	A,C	No	-	Yes 39 Months
165-2 - Rotational Crops (Field)	TEP	A,C	No	-	Yes6/ 50 Months
165-3 - Irrigated Crops	TEP	C	No	-	Yes 39 Months
165-4 - In Fish	TGAI or PAIRA	A,B,C,G	No	-	Yes 12 Months
165-5 - In Aquatic Nontarget Organisms	TEP	G	No	-	Yes 12 Months

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

§158.130 Environmental Fate (continued)

1/ Composition: TGAI = Technical grade of the active ingredient; PAIRA = Pure active ingredient, radiolabelled; TEP = Typical end-use product.

2/ The use patterns are coded as follows: A = Terrestrial, Food Crop; B = Terrestrial, Non-Food; C = Aquatic, Food Crop; D = Aquatic, Non-Food; E = Greenhouse, Food Crop; F = Greenhouse, Non-Food; G = Forestry; H = Domestic Outdoor; I = Indoor.

3/ Data must be submitted within the indicated timeframes, which begin on the date of the Guidance Document (see front cover for this date).

4/ These data are not required if acceptable anaerobic aquatic metabolism data are provided.

5/ The requirement for these data depend on the results of the terrestrial field dissipation studies.

6/ May be required, depending upon test results from confined crop studies (165-1).

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

Data Requirement	Composition 1/	Use Pattern 2/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(B)? Timeframes for Data Submission 3/
§158.135 Toxicology (continued)					
ACUTE TESTING:					
81-1 - Oral	TGAI	A,B,C,D,E,F	Yes	GS00153005	No
81-2 - Dermal	TGAI	A,B,C,D,E,F	No	-	Yes 4/ 9 Months
81-3 - Inhalation	TGAI	A,B,C,D,E,F	No	-	Yes 4/ 9 Months
81-7 - Acute Delayed Neurotoxicity	TGAI	A,B,C,D,E,F	No	-	Yes 4/ 9 Months
SUBCHRONIC TESTING:					
82-1 - 90-Day Feeding - Rodent (rat,mouse)	TGAI	A,C,E	Yes	00074299,00072513	No
Non-rodent (dog)				00072512	No
82-2 - 21-Day Dermal - Rabbit	TGAI	A,B,C,D,E,F	No	-	Reserved 5/
82-3 - 90-Day Dermal - Rabbit	TGAI	A,B,C,D,E,F	No	-	Reserved 5/
82-4 - 90-Day Inhalation - Rat	TGAI	A,B,C,D,E,F	No	-	Reserved 5/
82-5 - 90-Day Neurotoxicity - Hen/Mammal	TGAI	-	No	-	Yes 4/ 15 Months
82-6 - Special Subchronic Testing - 2 species	TGAI	A,C,E			
-Rat,			No		Yes 6/ 12 months
-Dog			No		Yes 7/ 12 Months

TABLE A

GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

Data Requirement	Composition1/	Use Pattern2/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(B)? Timeframes for Data Submission3/	
§158.135 Toxicology (continued)						
CHRONIC TESTING:						
83-1 - Chronic Toxicity - 2 species	TGAI	A,C,E				
- Rodent (Wistar Rat)			Partially	GS00153006,	Yes8/	
(S-D Rat)			Partially	GS00153007	Yes6/,7/	
- Non-rodent (Dog)			Partially	00093895	Yes7/,8/	
83-2 - Oncogenicity Study - 2 species	TGAI	A,C,E				
- Rat (Wistar Rat)			Partially	GS00153006,	Yes9/	
(S-D Rat)			Yes	GS00153007	No	
(F344 Rat)			Partially	00127239	Yes8/	
- Mouse (preferred)			No		Yes	50 Months
83-3 - Teratogenicity - 2 species:	TGAI	A,B,C,D,E,F				
- Rat			Partially	GS00153008	Yes8/	
- Rabbit			Partially	GS00153009	Yes8/	
83-4 - Reproduction - Rat 2-generation	TGAI	A,B,C,D,E,F	Yes	00119087	No	
MUTAGENICITY TESTING						
84-2 - Gene Mutation (Ames Test)	TGAI	A,B,C,D,E,F	Yes	GS00153010,00124901 GS00153011,00132949	No	
84-2 - Structural Chromosomal Aberration	TGAI	A,B,C,D,E,F	Yes	GS00153012,00124901	No	

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

Data Requirement	Composition1/	Use Pattern2/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(B)? Timeframes for Data Submission3/
§158.135 Toxicology (continued)					
84-4 - Other Genotoxic Effects	TGAI	A,B,C,D,E,F	Yes	GS00153012,00124901 GS00153011	No
SPECIAL TESTING					
85-1 - General Metabolism	PAI or PAIRA		No	-	Yes 24 Months
85-2 - Dermal Penetration	Choice		No		Yes 12 Months
86-1 - Domestic Animal Safety	Choice		No	-	Yes 24 Months

1/ Composition: PAI = Pure active ingredient; PAIRA = Pure active ingredient, radiolabelled; Choice = Choice of several test substances determined on a case-by-case basis.

2/ The use patterns are coded as follows: A = Terrestrial, Food Crop; B = Terrestrial, Non-Food; C = Aquatic, Food Crop; D = Aquatic, Non-Food; E = Greenhouse, Food Crop; F = Greenhouse, Non-Food; G = Forestry; H = Domestic Outdoor; I = Indoor.

3/ Data must be submitted within the indicated timeframes, which begin on the date of the Guidance Document (see front cover for this date).

4/ Data to fulfill these requirements may be submitted from the open or published literature.

5/ Contingent upon the outcome of the worker exposure analysis (see reentry section).

6/ The registrant(s) must provide reasonable and acceptable approaches to determine the "no-observed-effect level" for the eye toxicity based on possible functional retinal impairment. The Agency is prepared to accept studies such as electroretinograms to assess these effects. The mechanism of abnormal gait in female rats and sciatic nerve degeneration including determination of a NOEL in rats must be addressed. Protocols must be submitted to this Agency within three months from the date of this Guidance Document. Electroretinogram data must be submitted to the Agency within 16 months from the date of this standard and the abnormal gait and sciatic nerve data must be submitted within 8 months from the date this standard is issued (see front cover for this date).

§158.135 Toxicology (continued)

7/ The registrant(s) must provide reasonable and acceptable approaches to determine the NOEL for cholinesterase inhibition in the chronic dog study (data are to be submitted within 24 months from the issuance of this standard). Additionally, reasonable and acceptable approaches to determine the eye toxicity based on functional retinal impairment must be provided. The Agency is prepared to accept studies such as electroretinograms to assess these effects (data must be submitted within 16 months from the issuance of this standard). Protocols for these studies must be submitted to this Agency within three months from the date of this Guidance Document (see front cover for this date).

8/ These supplementary studies may be upgraded following submission of additional data. These data must be submitted no later than 12 months from the issuance of this standard.

9/ Although this study meets the Agency's guidelines, additional information on the historical background of the spontaneous tumor incidences are required. These data must be submitted within 6 months from the date of this Guidance Document.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

Data Requirement	Composition[1/]	Use Pattern[2/]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(B)? Timeframes for Data Submission[3/]	
§158.140 Reentry Protection						
132-1 - Foliar Dissipation	TEP	A,B,C,D,E,F	No	-	Yes[4/]	27 Months
132-1 - Soil Dissipation	TEP	A,B,C,D,E,F	No		Yes[4/]	27 Months
133-3 - Dermal Exposure	TEP	A,B,C,D,E,F	No	-	Yes[4,5/]	27 Months
133-4 - Inhalation Exposure	TEP	A,B,C,D,E,F	No	-	Yes[4,5/]	27 Months
§158.142 Spray Drift						
201-1 - Droplet Size Spectrum	TEP	A,B,C,D	No	-	Yes[7/]	27 Months
201-1 - Drift Field Evaluation	TEP	A,B,C,D	No	-	Yes[7/]	27 Months
§158.75 Other Exposure Data		A,B,C,D,E,F	No	-	Yes[6,8/]	27 Months

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[1/] Composition: TEP = Typical end-use product.

[2/] The use patterns are coded as follows: A = Terrestrial, Food Crop; B = Terrestrial, Non-Food; C = Aquatic, Food Crop; D = Aquatic, Non-Food; E = Greenhouse, Food Crop; F = Greenhouse, Non-Food; G = Forestry; H = Domestic Outdoor; I = Indoor.

[3/] Data must be submitted within the indicated timeframes, which begin on the date of the Guidance Document (see front cover for this date).

[4/] For each representative crop/site the registrant is required to propose an acceptable reentry interval based on either: a) data on dissipation of foliar and/or soil residues of parathion (decline curve), on human exposure to those residues, and on toxicity of parathion; or b) determination of that time beyond which There are no detectable, dislodgeable residues remaining in the worker environment.

§158.140 Reentry Protection (con't)

5/ Exposure data may be estimated from foliar dissipation data [132-1] according to the Allowable Exposure Method of Subdivision K of the Pesticide Assessment Guidelines or may be determined experimentally.

6/ Passive dosimetry (patch) studies on mixer/loaders and applicators during airblast, ground boom, and aerial operations involving emulsifiable concentrates, wettable powders, microencapsulated, and dust formulations are required. These studies must be conducted in compliance with the Agency's Pesticide Guidelines, Subdivision U, Applicator Exposure Monitoring. The protocols must be submitted to and approved by the Agency prior to the initiation of the studies

7/ The spray drift droplet spectrum and field evaluation may be done together in order to evaluate the droplet spectrums that are associated with actual field use patterns.

8/ Quantitative data must be submitted regarding the permeability of various materials used for protective clothing and equipment (gloves, boots, protective garments, etc.) for all liquid formulations. If these data are not available, the they must be generated using methods described in American Society of Testing and Materials (ASTM) 739-81-Standard Test Method for Resistance of Protective Materials to Permeation by Hazardous Liquid Chemicals.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

Data Requirement	Composition[1]/	Use Pattern[2]/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(B)? Timeframes for Data Submission[3]/	
§158.145 Wildlife and Aquatic Organisms						
AVIAN AND MAMMALIAN TESTING						
71-1 - Acute Avian Oral Toxicity	TGAI	A,B,C,D,G	Yes	GS00153014, 00020560 05008363	No	
	TEP	A,B,C,D,G	Yes	GS00153015	No	
71-2 - Avian Subacute Dietary Toxicity	TGAI	A,B,C,D,G	Yes	00022923, GS00153016	No	
	TEP	A,B,C,D,G	Partially	00102329	Yes[4]/	9 Months
71-3 - Wild Mammal Toxicity	TGAI	A,B,C,D,G	Yes	GS00153017, GS00153018 GS00153019	No	
71-4 - Avian Reproduction	TGAI	A,B,C,G	No	-	Yes	24 Months
	TEP	A,B,C,G	Yes	00128792, 00128793	No	
71-5 - Simulated and Actual Field Testing - Mammals and Birds	TEP	A,B,C,G	Partially	00102372, 00090488 00061213, GS00153020 GS00153021	Yes[5]/	48 Months
AQUATIC ORGANISM TESTING						
72-1 - Freshwater Fish Toxicity Coldwater	TGAI	A,B,C,D,G	Yes	00003503, 00128791	No	
	TEP	C,D	Partially	00061214, 00128791	Yes[6]/	9 Months
Warmwater	TGAI	A,B,C,D,G	Yes	00003503, 00091907 GS00153022	No	
	TEP	C,D	Partially	00061214, GS00153022 00102405, 00076148	Reserved[7]/	

TABLE A

GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

Data Requirement	Composition1/	Use Pattern2/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(B)?	Timeframes for Data Submission3/
72-2 - Acute Toxicity to Freshwater Invertebrates	TGAI	A,B,C,D,G	Yes	00003503, 00128790	No	
	TEP	C,D	Partially	00128790, 00083028	Yes6/	9 Months
72-3 - Acute Toxicity to Estuarine and Marine Organisms	TGAI	A,C,D	Yes	000663418/, 05000819	No	
	TEP	C,D	No	-	Yes9/	12 Months
72-4 - Fish Early Life Stage, and Aquatic Invertebrate Life-Cycle						
Estuarine						
Fish	TGAI	A,C,D	No	-	Yes10/	15 Months
Invertebrate	TGAI	A,C,D	Partially	00066341	Reserved11/	
Freshwater Fish	TGAI	A,C,D	Partially	GS00153022, 00128791	Yes12/	15 Months
	TEP	A,C.D	Partially	GS00153022, 00128791	Yes12/	15 Months
Invertebrate	TGAI	A,C,D	Partially	00128790	Yes13/	15 Months
	TEP	A,C,D	Yes	00128790	No	
72-5 - Fish - Life-Cycle	TGAI	A,C,D	No	-	Reserved14/	
72-6 - Aquatic Organism Accumulation	TGAI	A,C,D	No	-	Yes15/	12 Months
72-7 - Simulated Field Testing - Aquatic Organisms	TEP	A,C,D	Partially	00035176	Yes16/	48 Months
- Actual Field Testing -Aquatic Organisms	TEP	A,C,D	Partially	00035176	Yes16/	48 Months

§158.145 Wildlife and Aquatic Organisms

1/ Composition of the material to be tested is technical grade unless otherwise specified in footnotes.

2/ The use patterns are coded as follows: A = Terrestrial, Food Crop; B = Terrestrial, Non-Food Crop; C = Aquatic, Food Crop; D = Aquatic, Non-Food; E = Greenhouse, Food Crop; F = Greenhouse, Non-Food; G = Forestry; H = Domestic Outdoor; I = Indoor.

3/ Data must be submitted within the indicated timeframes, which begin on the date of the Guidance Document (see front cover for this date).

4/ The data requirement for an avian dietary study with upland gamebirds has been fulfilled. The study must also be conducted with a waterfowl species.

5/ Full field testing of the effects of methyl parathion on birds and mammals is required. The use sites with which we are concerned include: forests, alfalfa, wheat, cotton, grapes, sunflowers, lettuce, soybeans, rice. If the registrant wants to conduct testing on fewer use sites, justification must be given. The testing must quantify mortality, survivability and reproduction of birds (waterfowl, passerines and upland gamebirds) and small mammals. The species that will be studied will be determined by the testing site. More than one geographic area for a specific use site may be necessary if there are significant environmental differences among the geographic areas. The registrant must consult with the Agency prior to initiation of any field testing. Protocols must be submitted to and approved by the Agency prior to initiation of any study.

6/ These studies were conducted with Penncap-M. Other formulations need to be tested if they will enter the aquatic environment from the use on rice and to control mosquitoes.

7/ The first two studies listed were conducted with Penncap-M. The last two studies listed were conducted with Stauffer formulations. If other formulations used on rice and to control mosquitoes are significantly different from the ones tested, they will also need to be tested.

8/ Study #00066341 was audited by the Agency. Final determination of the status of tests on white shrimp and spot (static tests) have not been completed. However, the data on oyster larvae, mysid shrimp, sheepshead minnow (static tests) and spot (flowthrough test) fulfill Guideline requirements.

9/ Testing must be conducted with typical formulations used on rice and to control mosquitoes in estuarine areas.

10/ An estuarine fish early lifestage is required to support the rice and mosquito control uses. The requirement for terrestrial food crop uses is reserved pending environmental fate data and a model-determined EEC.

11/ This study was audited by the Agency. If the Agency determines that this study is deficient, then another one must be submitted to support the rice and mosquito control uses. The requirement for terrestrial food crop uses is reserved pending environmental fate data and a model-determined EEC.

§158.145 Wildlife and Aquatic Organisms (con't)

12/ Study #00128791 is deficient because only two concentrations of technical methyl parathion were tested and a no-effect level was not determined for both technical methyl parathion and Penncap-M. Study GS00153024 is deficient because the raw data for the biological and water chemistry parameters are missing. If the raw data are submitted, the study can be reevaluated and may fulfill the Guideline requirements.

13/ Study #00128790 is deficient because only two concentrations of technical methyl parathion were tested and a no-effect was not determined.

14/ This study is reserved pending the submission and review of the requested environmental fate data.

15/ Refer to 165-4 and 165-5 for these requirements.

16/ The aquatic data show that aquatic invertebrates can be severely impacted by the movement of methyl parathion from
treated fields to adjacent aquatic sites. The effects on fish populations is less clear. Data from a field test
and estimates from runoff modeling indicate fish may not be significantly affected; however the field and modelling
data did not take into account potential exposure from drift of the pesticide to aquatic sites. These aquatic
data indicate the need for well-designed full-scale field studies which examine the effects on fish and aquatic
invertebrates as well as monitor residues in the water and sediment. These studies can either be designed as
mesocosms (simulated field study) or full field study (actual field study). Testing sites include, presently,
cotton, rice, soybeans, alfalfa and mosquito control sites. The registrant must inform the Agency which of the two
field techniques it wants to use to fulfill this data requirement. The Agency will provide guidelines for proper
protocol development. If the mesocosm method is chosen the system must be inoculated with biota and allowed to
develop for one year prior to treating the system with the pesticide. The treatment year will be based upon the
season(s) of application of the pesticide. There are to be at least three treatment levels based on estimated en-
vironmental concentrations for drift and surface runoff and three replicates per treatment plus three controls. A
mesocosm study may be needed for each agricultural site if predicted drift and surface runoff and geographic regions
of use are significantly different for each site. If the actual field study method is used there must be at least
one reference pond and one treatment pond per agricultural site. There must be a baseline year of study and a treat-
ment year for each pond. The treatment year will be determined by the application season for each agricultural site.
Based upon the results of the field/mesocosm testing, aquatic residue monitoring of additional sites may be needed.
The Agency must approve the protocols prior to initiation of the studies.

TABLE A.
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

Data Requirement	Composition1/	Use Pattern2/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(B)? Timeframes for Data Submission3/
§158.155 Nontarget Insect					
NONTARGET INSECT TESTING - POLLINATORS:					
141-1 - Honeybee acute contact toxicity	TGAI	A,B,G	Yes	00066220	No
141-2 - Honeybee - toxicity of residues on foliage	TEP	A,B,G	Yes	00074486	No
141-4 - Honeybee subacute feeding study	(Reserved)4/				
141-5 - Field testing for pollinators	TEP	A,B,G	Yes	00138662, 00138663 00138667	No
NONTARGET INSECT TESTING - AQUATIC INSECTS:					
142-1 - Acute toxicity to aquatic insects	(Reserved)5/				
142-1 - Aquatic insect life-cycle study	(Reserved)5/				
142-3 - Simulated or actual field testing for aquatic insects	(Reserved)5/				
143-1 thru 143-3 - NONTARGET INSECT TESTING - PREDATORS AND PARASITES	(Reserved)5/				

§158.155 Nontarget Insect (con't)

1/ Composition: TGAI = Technical grade of the active ingredient; TEP = Typical end-use product.

2/ The use patterns are coded as follows: A = Terrestrial, Food Crop; B = Terrestrial, Non-Food; C = Aquatic, Food Crop; D = Aquatic, Non-Food; E = Greenhouse, Food Crop; F = Greenhouse, Non-Food; G = Forestry; H = Domestic Outdoor; I = Indoor.

3/ Data must be submitted within the indicated timeframes, which begin on the date of the Guidance Document (see front cover for this date).

4/ Reserved pending development of test methodology.

5/ Reserved pending Agency decision as to whether the data requirement should be established.

TABLE A
GENERIC DATA REQUIREMENTS FOR METHYL PARATHION

Data Requirement	Composition[1/]	Use Pattern[2/]	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(B)? Timeframes for Data Submission[3/]
§158.155 Nontarget Insect **§158.150 Plant Protection**					
121-1 - TARGET AREA PHYTOTOXICITY	EP	B,D	No	-	No[3/]
NONTARGET AREA PHYTOTOXICITY					
TIER I					
122-1 - Seed Germination/ Seedling Emergence	TGAI	B,D	No	-	No[3/]
122-1 - Vegetative Vigor	TGAI	B,D	No	-	No[3/]
122-2 - Aquatic Plant Growth	TGAI	B,D	No	-	No[3/]
TIER II					
123-1 - Seed Germination/ Seedling Emergence	TGAI	B,D	No	-	No[3/]
123-1 - Vegetative Vigor	TGAI	B,D	No	-	No[3/]
123-2 - Aquatic Plant Growth	TGAI	B,D	No	-	No[3/]
TIER III					
124-1 - Terrestrial Field	TEP	B,D	No	-	No[3/]
124-2 - Aquatic Field	TEP	B,D	No	-	No[3/]

1/ Composition: TGAI = Technical grade of the active ingredient; TEP = Typical end-use product. EP = End-use product.

2/ The use patterns are coded as follows: A = Terrestrial, Food Crop; B = Terrestrial, Non-Food Crop; C = Aquatic, Food Crop; D = Aquatic, Non-Food; E = Greenhouse, Food Crop; F = Greenhouse, Non-Food; G = Forestry; H = Domestic

3/ These requirements are generally waived unless it is believed there is a phytotoxicity problem.

TABLE B
PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING METHYL PARATHION

Guideline Citation and Name of Test	Test Substance1/	Guidelines Status	Are Data Required? Yes	No	Data Must Be Submitted Within Timeframes Listed Below2/
§158.120 Product Chemistry					
Product Identity:					
61-1 - Product Identity and Disclosure of Ingredients	MP	R	☒	☐	6 Months
61-2 - Description of Beginning Materials and Manufacturing Process	MP	R	☒	☐	6 Months
61-3 - Discussion of Formation of Impurities	MP	R	☒	☐	6 Months
Analysis and Certification of Product Ingredients					
62-1 - Preliminary Analysis	MP	CR	☒	☐	12 Months
62-2 - Certification of Limits	MP	R	☒	☐	12 Months
62-3 - Analytical Methods to Verify Certified Limit	MP	R	☒	☐	12 Months
Physical and Chemical Characteristics					
63-2 - Color	MP	R	☒	☐	6 Months
63-3 - Physical State	MP	R	☒	☐	6 Months
63-4 - Odor	MP	R	☒	☐	6 Months

: :

TABLE B
PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING METHYL PARATHION

Guideline Citation and Name of Test	Test Substance1/	Guidelines Status	Are Data Required? Yes	No	Data Must Be Submitted Within Timeframes Listed Below2/
§158.120 Product Chemistry (continued)					
Physical and Chemical Characteristics (continued)					
63-7 - Density, Bulk Density, or Specific Gravity	MP	R	☒	☐	7 Months
63-12 - pH	MP	CR	☒	☐	7 Months
63-14 - Oxidizing or Reducing Action	MP	CR	☒	☐	7 Months
63-15 - Flammability	MP	CR	☒	☐	7 Months
63-16 - Explodability	MP	R	☒	☐	7 Months
63-17 - Storage Stability	MP	R	☒	☐	16 Months
63-18 - Viscosity	MP	CR	☒	☐	7 Months
63-19 - Miscibility	MP	CR	☒	☐	7 Months
63-20 - Corrosion Characteristics	MP	R	☒	☐	7 Months
Other Requirements:					
64-1 - Submittal of samples	MP	CR	☐	☒	

: :

1/ MP = Manufacturing-use Product; R = Required; CR = Conditionally Required.

2/ Data must be submitted within the indicated timeframes, which begin on the date of the Guidance Document (see front cover for this date).

TABLE B

PRODUCT SPECIFIC DATA REQUIREMENTS FOR MANUFACTURING-USE PRODUCTS CONTAINING METHYL PARATHION

Data Requirement	Composition 1/	Does EPA Have Data To Satisfy This Requirement? (Yes, No or Partially)	Bibliographic Citation	Must Additional Data Be Submitted Under FIFRA § 3(c)(2)(B)? Timeframes for Data Submission 2/
§158.135 Toxicology				
ACUTE TESTING				
81-1 - Acute Oral Toxicity - Rat	MP	No	-	Yes 9 Months
81-2 - Acute Dermal Toxicity - Rabbit	MP	No	-	Yes 9 Months
81-3 - Acute Inhalation Toxicity - Rat	MP	No	-	No 3/
81-4 - Primary Eye Irritation - Rabbit	MP	No	-	No 3/
81-5 - Primary Dermal Irritation - Rabbit	MP	No	-	No 3/
81-6 - Dermal Sensitization - Guinea Pig	MP	No	-	No 3/

1/ Composition: MP = Manufacturing-use product.

2/ Data must be submitted within the indicated timeframes, which begin on the date of the Guidance Document (see front cover for this date).

3/ These data are waived since parathion labeling bears the highest possible toxicity category (I) and is a Restricted Use chemical. However, if another toxicity category is desired, data must be submitted for the above studies.

LABEL CONTENTS

40 CFR 162.10 requires that certain specific labeling statements appear at certain locations on the label. This is referred to as format labeling. Specific label items listed below are keyed to the table at the end of this Appendix.

Item 1. PRODUCT NAME - The name, brand or trademark is required to be located on the front panel, preferably centered in the upper part of the panel. The name of a product will not be accepted if it is false or misleading.

Item 2. COMPANY NAME AND ADDRESS - The name and address of the registrant or distributor is required on the label. The name and address should preferably be located at the bottom of the front panel or at the end of the label text.

Item 3. NET CONTENTS - A net contents statement is required on all labels or on the container of the pesticide. The preferred location is the bottom of the front panel immediately above the company name and address, or at the end of the label text. The net contents must be expressed in the largest suitable unit, e.g., "1 pound 10 ounces" rather than "26 ounces." In addition to English units, net contents may be expressed in metric units. [40 CFR 162.10(d)]

Item 4. EPA REGISTRATION NUMBER - The registration number assigned to the pesticide product must appear on the label, preceded by the phrase "EPA Registration No.," or "EPA Reg. No." The registration number must be set in type of a size and style similar to other print on that part of the label on which it appears and must run parallel to it. The registration number and the required identifying phrase must not appear in such a manner as to suggest or imply recommendation or endorsement of the product by the Agency. [40 CFR 162.10(e)]

Item 5. EPA ESTABLISHMENT NUMBER - The EPA establishment number, preceded by the phrase "EPA Est." is the final establishment at which the product was produced, and may appear in any suitable location on the label or immediate container. It must also appear on the wrapper or outside container of the package if the EPA establishment number on the immediate container cannot be clearly read through such wrapper or container. [40 CFR 162.10(f)]

Item 6A. INGREDIENTS STATEMENT - An ingredients statement is required on the front panel. The ingredients statement must contain the name and percentage by weight of each active ingredient and the total percentage by weight of all inert ingredients. The preferred location is immediately below the product name. The ingredients statement must run parallel with, and be clearly distinguished from, other text on the panel. It must not be placed in the body of other text. [40 CFR 162.10(g)]

Item 6B. POUNDS PER GALLON STATEMENT - For liquid agricultural formulations, the pounds per gallon of active ingredient must be indicated on the label.

Item 7. FRONT LABEL PRECAUTIONARY STATEMENTS - Front panel precautionary statements must be grouped together, preferably within a block outline. The table below shows the minimum type size requirements for various size labels.

Size of Label on Front Panel in Square Inches	Signal Word Minimum Type Size All Capitals	"Keep Out of Reach of Children" Minimum Type Size
5 and under	6 point	6 point
above 5 to 10	10 point	6 point
above 10 to 15	12 point	8 point
above 15 to 30	14 point	10 point
over 30	18 point	12 point

Item 7A. CHILD HAZARD WARNING STATEMENT - The statement "Keep Out of Reach of Children" must be located on the front panel above the signal word except where contact with children during distribution or use is unlikely. [40 CFR 162.10(h)(1)(ii)]

Item 7B. SIGNAL WORD - The signal word (DANGER, WARNING, or CAUTION) is required on the front panel immediately below the child hazard warning statement. [40 CFR 162.10 (h)(1)(i)]

Item 7C. SKULL & CROSSBONES AND WORD "POISON" - On products assigned a toxicity Category I on the basis of oral, dermal, or inhalation toxicity, the word "Poison" shall appear on the label in red on a background of distinctly contrasting color and the skull and crossbones shall appear in immediate proximity to the word POISON. [40 CFR 162.10(h)(1)(i)]

Item 7D. STATEMENT OF PRACTICAL TREATMENT - A statement of practical treatment (first aid or other) shall appear on the label of pesticide products in toxicity Categories I, II, and III. [40 CFR 162.10(h)(1)(iii)]

Item 7E. REFERRAL STATEMENT - The statement "See Side (or Back) Panel for Additional Precautionary Statements" is required on the front panel for all products, unless all required precautionary statements appear on the front panel. [40 CFR 162.10(h)(1)(iii)]

Item 8. SIDE/BACK PANEL PRECAUTIONARY LABELING - The precautionary statements listed below must appear together on the label under the heading "PRECAUTIONARY STATEMENTS." The preferred location is at the top of the side or back panel preceding the directions for use, and it is preferred that these statements be surrounded by a block outline. Each of the three hazard warning statements must be headed by the appropriate hazard title. [40 CFR 162.10(h)(2)].

Item 8A. HAZARD TO HUMANS AND DOMESTIC ANIMALS - Where a hazard exists to humans or domestic animals, precautionary statements are required indicating the particular hazard, the route(s) of exposure and the precautions to be taken to avoid accident, injury or damage. [40 CFR 162.10(h)(2)(i)]

Item 8B. ENVIRONMENTAL HAZARD - Where a hazard exists to non-target organisms excluding humans and domestic animals, precautionary statements are required stating the nature of the hazard and the appropriate precautions to avoid potential accident, injury, or damage. [40 CFR 162.10(h)(2)(ii)]

Item 8C. PHYSICAL OR CHEMICAL HAZARD - FLAMMABILITY Precautionary statements relating to flammability of a product are required to appear on the label if it meets the criteria in the PHYS/CHEM Labeling Appendix. The requirement is based on the results of the flashpoint determinations and flame extension tests required to be submitted for all products. These statements are to be located in the side/back panel precautionary statements section, preceded by the heading "Physical/Chemical Hazards." Note that no signal word is used in conjunction with the flammability statements.

Item 9A. RESTRICTED USE CLASSIFICATION - FIFRA sec. 3(d) requires that all pesticide formulations/uses be classified for either general or restricted use. Products classified for restricted use may be limited to use by certified applicators or persons under their direct supervision (or may be subject to other restrictions that may be imposed by regulation).

In the Registration Standard, the Agency has (1) indicated certain formulations/uses are to be restricted (Section IV indicates why the product has been classified for restricted use); or (2) reserved any classification decision until appropriate data are submitted.

The Regulatory Position and Rationale states whether products containing this active ingredient are classified for restricted use. If they are restricted the draft label(s) submitted to the Agency as part of your application must reflect this determination (see below).

If you do not believe that your product should be classified for restricted use, you must submit any information and rationale with your application for reregistration. During the Agency's review of your application, your proposed classification determination will be evaluated in accordance with the provisions of 40 CFR 162.11(c). You will be notified of the Agency's classification decision.

Classification Labeling Requirements

If your product has been classified for restricted use, the following label requirements apply:

1. All uses restricted.

a. The statement "Restricted Use Pesticide" must appear at the top of the front panel of the label. The statement must be set in type of the same minimum size as required for human hazard signal word (see table in 40 CFR 162.10(h)(1)(iv)

b. Directly below this statement on the front panel, a summary statement of the terms of restriction must appear (including the reasons for restriction if specified in Section I). If use is restricted to certified applicators, the following statement is required: "For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's Certification."

2. Some but not all uses restricted. If the Regulatory Position and Rationale states that some uses are classified for restricted use, and some are unclassified, several courses of action are available:

a. You may label the product for Restricted use. If you do so, you may include on the label uses that are unrestricted, but you may not distinguish them on the label as being unrestricted.

b. You may delete all restricted uses from your label and submit draft labeling bearing only unrestricted uses.

c. You may "split" your registration, i.e., register two separate products with identical formulations, one bearing only unrestricted uses, and the other bearing restricted uses. To do so, submit two applications for reregistration, each containing all forms and necessary labels. Both applications should be submitted simultaneously. Note that the products will be assigned separate registration numbers.

Item 9B. MISUSE STATEMENT - All products must bear the misuse statement, "It is a violation of Federal law to use this product in a manner inconsistent with its labeling." This statement appears at the beginning of the directions for use, directly beneath the heading of that section.

SUMMARY-5

Item 10A. REENTRY STATEMENT - If a reentry interval has been established by the Agency, it must be included on the label. Additional worker protection statements may be required in accordance with PR Notice 83-2, March 29, 1983.

Item 10B. STORAGE AND DISPOSAL BLOCK - All labels are required to bear storage and disposal statements. These statements are developed for specific containers, sizes, and chemical content. These instructions must be grouped and appear under the heading "Storage and Disposal" in the directions for use. This heading must be set in the same type sizes as required for the child hazard warning. Refer to Appendix II, STOR, PEST/DIS, and CONT/DIS to determine the storage and disposal instructions appropriate for your products.

Item 10C. DIRECTIONS FOR USE - Directions for use must be stated in terms which can be easily read and understood by the average person likely to use or to supervise the use of the pesticide. When followed, directions must be adequate to protect the public from fraud and from personal injury and to prevent unreasonable adverse effects on the environment. [40 CFR 162.10]

COLLATERAL LABELING

Bulletins, leaflets, circulars, brochures, data sheets, flyers, or other written or graphic printed matter which is referred to on the label or which is to accompany the product are termed collateral labeling. Such labeling may not bear claims or representations that differ in substance from those accepted in connection with registration of the product. It should be made part of the response to this notice and submitted for review.

SUMMARY-6

LABELING REQUIREMENTS OF THE FIFRA, AS AMENDED

ITEM	LABEL ELEMENT	APPLICABILITY OF REQUIREMENT	PLACEMENT ON LABEL		COMMENTS
			REQUIRED	PREFERRED	
1	Product name	All products	Front panel	Center front panel	
2	Company name and address	All products	None	Bottom front panel or end of label text	If registrant is not the producer, must be qualified by "Packed for . . .," "Distributed by. . .," etc.
3	Net contents	All products	None	Bottom front panel or end of label text	May be in metric units in addition to U.S. units
4	EPA Reg. No.	All products	None	Front panel	Must be in similar type size and run parallel to other type.
5	EPA Est. No.	All products	None	Front panel, immediately before or following Reg. No.	May appear on the container instead of the label.
6A	Ingredients statement	All products	Front panel	Immediately following product name	Text must run parallel with other text on the panel.
6B	Pounds/gallon statement	Liquid products where dosage given as lbs. ai/unit area	Front panel	Directly below the main ingredients statement	
7	Front panel precautionary statements	All products	Front panel		All front panel precautionary statements must be grouped together, preferably blocked.
7A	Keep Out of Reach of Children (Child hazard warning)	All products	Front panel	Above signal word	Note type size requirements.
7B	Signal word	All products	Front panel	Immediately below child hazard warning	Note type size requirements.

ITEM	LABEL ELEMENT	APPLICABILITY OF REQUIREMENT	PLACEMENT ON LABEL		COMMENTS
			REQUIRED	PREFERRED	
7C	Skull & crossbones and word POISON (in red)	All products which are Category I based on oral, dermal, or inhalation toxicity	Front panel	Both in close proximity to signal word	
7D	Statement of Practical Treatment or First Aid	All products in Categories I, II, and III	Category I: Front panel unless referral statement is used. Others: Grouped with side panel precautionary statements.	Front panel for all.	
7E	Referral statement	All products where precautionary labeling appears on other than front panel.	Front panel		
8	Side/back panel precautionary statements	All products	None	Top or side of back panel preceding directions for use	Must be grouped under the headings in 8A, 8B, and 8C; preferably blocked.
8A	Hazards to humans and domestic animals	All products in Categories I, II, and III	None	Same as above	Must be preceded by appropriate signal word.
8B	Environmental hazards	All products	None	Same as above	Environmental hazards include bee caution where applicable.

~~cant obtained the data from another firm (identify); applicant copied data from a publication; applicant obtained a copy of the data from EPA).~~

~~(d) The applicant shall submit with his application a statement that EPA, in its evaluation of the properties, efficacy, and safety of the formulated end-use product, may not consider any data as supporting the application, except the following data:~~

~~(1) The data the applicant has submitted to EPA under paragraph (b) of this section;~~

~~(2) Other data pertaining to the safety of the product's active ingredients, rather than to the safety of the end-use product; and~~

~~(3) Existing tolerances, food additive regulations, exemptions and other clearances issued under the Federal Food, Drug, and Cosmetic Act.~~

~~(e) If the applicant knows that any item of data he submitted under this section was generated by (or at the expense of) another person who originally submitted the data to EPA (or its predecessor, USDA) on or after January 1, 1970, to support an application for registration, experimental use permit, or amendment adding a new use to an existing registration, or for reregistration (unless the applicant and the original data submitter have reached written agreement on the amount and the terms of payment of any compensation that may be payable under FIFRA section 3(c)(1)(D)(ii) with regard to approval of the application), the applicant shall submit to EPA a statement that he has furnished to each such identified original data submitter:~~

~~(1) A notification of the applicant's intent to apply for registration, including the proposed product name;~~

~~(2) An offer to pay the person compensation, with regard to the approval of the application, to the extent required by FIFRA sections 3(c)(1)(D) and 3(c)(2)(D);~~

~~(3) An identification of the item(s) of data to which the offer applies;~~

~~(4) An offer to commence negotiations to ascertain the amount and terms of compensation to be paid; and~~

~~(5) The applicant's name, address, and telephone number.~~

~~(f) If the applicant's product contains any active ingredient other than those that are present solely because of the incorporation into the product, during formulation, of one or more other registered pesticide products purchased from another producer, then the applicant shall also comply with § 162.9-4 as to such active ingredient, and the application shall contain an acknowledgment that for purposes of FIFRA section 3(c)(1)(D) the application relies on (and any resulting registration should be regarded as if it were based on the Administrator's consideration of) the following data:~~

~~(1) All data submitted or specifically cited by the applicant in support of the registration; and~~

~~(2) Each other item of data in the Agency's files which:~~

~~(i) Concerns the properties or effects of any such active ingredient; and~~

~~(ii) Is one of the types of data that EPA would require to be submitted for scientific review by EPA if the applicant sought the initial registration under FIFRA Section 3(c)(5) of a product with composition and intended uses identical to those proposed for the applicant's product, under the data requirements in effect on the date EPA approves the applicant's present application.~~

~~(Secs. 3, 6, and 25 of FIFRA, as amended, 7 U.S.C. 136 et seq.)~~

[44 FR 27953, May 11, 1979]

§ 162.10 Labeling requirements.

(a) *General*—(1) *Contents of the label.* Every pesticide products shall bear a label containing the information specified by the Act and the regulations in this Part. The contents of a label must show clearly and prominently the following:

(i) The name, brand, or trademark under which the product is sold as prescribed in paragraph (b) of this section;

(ii) The name and address of the producer, registrant, or person for whom produced as prescribed in paragraph (c) of this section;

(iii) The net contents as prescribed in paragraph (d) of this section;

SUMMARY-8

ITEM	LABEL ELEMENT	APPLICABILITY OF REQUIREMENT	PLACEMENT ON LABEL		COMMENTS
			REQUIRED	PREFERRED	
8C	Physical or chemical hazards	All pressurized products, others with flash points under 150°F	None	Same as above	Refer to Appendix II guide PHYS/CHEM
9A	Restricted block	All restricted products	Top center of front panel	Preferably blocked	Includes a statement of the terms of restriction. The words "RESTRICTED USE PESTICIDE" must be same type size as signal word.
9B	Misuse statement	All products	Immediately following heading of directions for use		Required statement is: "It is a violation of Federal law to use this product in a manner inconsistent with its labeling."
10A	Reentry statement	PR Notice 83-2 or as determined by the Agency	In the directions for use	Immediately after misuse statement	
10B	Storage and disposal block	All products	In the directions for use	Immediately before specific directions for use or at the end of directions for use	Must be set apart and clearly distinguishable from from other directions for use. Refer to Appendix II guides STOR, CONT/DIS, and PEST/DIS for further information and required statements.
10C	Directions for use	All products	None	None	May be in metric as well as U.S. units

allel to it. The registration number and the required identifying phrase shall not appear in such a manner as to suggest or imply recommendation or endorsement of the product by the Agency.

(f) *Producing establishments registration number.* The producing establishment registration number preceded by the phrase "EPA Est.", of the final establishment at which the product was produced may appear in any suitable location on the label or immediate container. It must appear on the wrapper or outside container of the package if the EPA establishment registration number on the immediate container cannot be clearly read through such wrapper or container.

(g) *Ingredient statement*—(1) *General.* The label of each pesticide product must bear a statement which contains the name and percentage by weight of each active ingredient, the total percentage by weight of all inert ingredients; and if the pesticide contains arsenic in any form, a statement of the percentages of total and water-soluble arsenic calculated as elemental arsenic. The active ingredients must be designated by the term "active ingredients" and the inert ingredients by the term "inert ingredients," or the singular forms of these terms when appropriate. Both terms shall be in the same type size, be aligned to the same margin and be equally prominent. The statement "Inert Ingredients, none" is not required for pesticides which contain 100 percent active ingredients. Unless the ingredient statement is a complete analysis of the pesticide, the term "analysis" shall not be used as a heading for the ingredient statement.

(2) *Position of ingredient statement.* (i) The ingredient statement is normally required on the front panel of the label. If there is an outside container or wrapper through which the ingredient statement cannot be clearly read, the ingredient statement must also appear on such outside container or wrapper. If the size or form of the package makes it impracticable to place the ingredient statement on the front panel of the label, permission may be granted for the ingredient statement to appear elsewhere.

(ii) The text of the ingredient statement must run parallel with other text on the panel on which it appears, and must be clearly distinguishable from and must not be placed in the body of other text.

(3) *Names to be used in ingredient statement.* The name used for each ingredient shall be the accepted common name, if there is one, followed by the chemical name. The common name may be used alone only if it is well known. If no common name has been established, the chemical name alone shall be used. In no case will the use of a trademark or proprietary name be permitted unless such name has been accepted as a common name by the Administrator under the authority of Section 25(c)(6).

(4) *Statements of percentages.* The percentages of ingredients shall be stated in terms of weight-to-weight. The sum of percentages of the active and the inert ingredients shall be 100. Percentages shall not be expressed by a range of values such as "22-25%." If the uses of the pesticide product are expressed as weight of active ingredient per unit area, a statement of the weight of active ingredient per unit volume of the pesticide formulation shall also appear in the ingredient statement.

(5) *Accuracy of stated percentages.* The percentages given shall be as precise as possible reflecting good manufacturing practice. If there may be unavoidable variation between manufacturing batches, the value stated for each active ingredient shall be the lowest percentage which may be present.

(6) *Deterioration.* Pesticides which change in chemical composition significantly must meet the following labeling requirements:

(i) In cases where it is determined that a pesticide formulation changes chemical composition significantly, the product must bear the following statement in a prominent position on the label: "Not for sale or use after [date]."

(ii) The product must meet all label claims up to the expiration time indicated on the label.

(7) *Inert ingredients.* The Administrator may require the name of any inert ingredient(s) to be listed in the ingredient statement if he determines that such ingredient(s) may pose a hazard to man or the environment.

(h) *Warnings and precautionary statements.* Required warnings and precautionary statements concerning the general areas of toxicological hazard including hazard to children, environmental hazard, and physical or chemical hazard fall into two groups; those required on the front panel of the labeling and those which may appear elsewhere. Specific requirements concerning content, placement, type size, and prominence are given below.

(1) *Required front panel statements.* With the exception of the child hazard warning statement, the text required on the front panel of the label is determined by the Toxicity Category of the pesticide. The category is assigned on the basis of the highest hazard shown by any of the indicators in the table below:

Hazard indicators	Toxicity categories			
	I	II	III	IV
Oral LD_{50}	Up to and including 50 mg/kg	From 50 thru 500 mg/kg	From 500 thru 5000 mg/kg	Greater than 5000 mg/kg
Inhalation LC_{50}	Up to and including 0.2 mg/liter	From 0.2 thru 2 mg/liter	From 2 thru 20 mg/liter	Greater than 20 mg/liter
Dermal LD_{50}	Up to and including 200 mg/kg	From 200 thru 2000	From 2,000 thru 20,000	Greater than 20,000
Eye effects	Corrosive; corneal opacity not reversible within 7 days	Corneal opacity reversible within 7 days; irritation persisting for 7 days	No corneal opacity; irritation reversible within 7 days	No irritation
Skin effects	Corrosive	Severe irritation at 72 hours	Moderate irritation at 72 hours	Mild or slight irritation at 72 hours

(i) *Human hazard signal word*—(A) *Toxicity Category I.* All pesticide products meeting the criteria of Toxicity Category I shall bear on the front panel the signal word "Danger." In addition if the product was assigned to Toxicity Category I on the basis of its oral, inhalation or dermal toxicity (as distinct from skin and eye local effects) the word "Poison" shall appear in red on a background of distinctly contrasting color and the skull and crossbones shall appear in immediate proximity to the word "poison."

(B) *Toxicity Category II.* All pesticide products meeting the criteria of Toxicity Category II shall bear on the front panel the signal word "Warning."

(C) *Toxicity Category III.* All pesticide products meeting the criteria of Toxicity Category III shall bear on the front panel the signal word "Caution."

(D) *Toxicity Category IV.* All pesticide products meeting the criteria of Toxicity Category IV shall bear on the front panel the signal word "Caution."

(E) *Use of signal words.* Use of any signal word(s) associated with a higher Toxicity Category is not permitted except when the Agency determines that such labeling is necessary to prevent unreasonable adverse effects on man or the environment. In no case shall more than one human hazard signal word appear on the front panel of a label.

(ii) *Child hazard warning.* Every pesticide product label shall bear on the front panel the statement "keep out of reach of children." Only in cases where the likelihood of contact with children during distribution, marketing, storage or use is demonstrated by the applicant to be extremely remote, or if the nature of the pesticide is such that it is approved for use on infants or small children, may the Administrator waive this requirement.

(iii) *Statement of practical treatment*—(A) *Toxicity Category I.* A statement of practical treatment (first aid or other) shall appear on the front panel of the label of all pesticides falling into Toxicity Category I on the basis of oral, inhalation or dermal toxicity. The Agency may, however, permit reasonable variations in the placement of the statement of practi-

(continued)

(iv) The product registration number as prescribed in paragraph (e) of this section;

(v) The producing establishment number as prescribed in paragraph (f) of this section;

(vi) An ingredient statement as prescribed in paragraph (g) of this section;

(vii) Warning or precautionary statements as prescribed in paragraph (h) of this section;

(viii) The directions for use as prescribed in paragraph (i) of this section; and

(ix) The use classification(s) as prescribed in paragraph (j) of this section.

(2) *Prominence and legibility.* (i) All words, statements, graphic representations, designs or other information required on the labeling by the Act or the regulations in this part must be clearly legible to a person with normal vision, and must be placed with such conspicuousness (as compared with other words, statements, designs, or graphic matter on the labeling) and expressed in such terms as to render it likely to be read and understood by the ordinary individual under customary conditions of purchase and use.

(ii) All required label text must:

(A) Be set in 6-point or larger type;

(B) Appear on a clear contrasting background; and

(C) Not be obscured or crowded.

(3) *Language to be used.* All required label or labeling text shall appear in the English language. However, the Agency may require or the applicant may propose additional text in other languages as is considered necessary to protect the public. When additional text in another language is necessary, all labeling requirements will be applied equally to both the English and other-language versions of the labeling.

(4) *Placement of Label*—(i) *General.* The label shall appear on or be securely attached to the immediate container of the pesticide product. For purposes of this Section, and the misbranding provisions of the Act, "securely attached" shall mean that a label can reasonably be expected to remain affixed during the foreseeable conditions and period of use. If the immediate container is enclosed within a wrapper or outside container through which the label cannot be clearly read, the label must also be securely attached to such outside wrapper or container, if it is a part of the package as customarily distributed or sold.

(ii) *Tank cars and other bulk containers*—(A) *Transportation.* While a pesticide product is in transit, the appropriate provisions of 49 CFR Parts 170-189, concerning the transportation of hazardous materials, and specifically those provisions concerning the labeling, marking and placarding of hazardous materials and the vehicles carrying them, define the basic Federal requirements. In addition, when any registered pesticide product is transported in a tank car, tank truck or other mobile or portable bulk container, a copy of the accepted label must be attached to the shipping papers, and left with the consignee at the time of delivery.

(B) *Storage.* When pesticide products are stored in bulk containers, whether mobile or stationary, which remain in the custody of the user, a copy of the label of labeling, including all appropriate directions for use, shall be securely attached to the container in the immediate vicinity of the discharge control valve.

(5) *False or misleading statements.* Pursuant to section 2(q)(1)(A) of the Act, a pesticide or a device declared subject to the Act pursuant to § 162.15, is misbranded if its labeling is false or misleading in any particular including both pesticidal and non-pesticidal claims. Examples of statements or representations in the labeling which constitute misbranding include:

(i) A false or misleading statement concerning the composition of the product;

(ii) A false or misleading statement concerning the effectiveness of the product as a pesticide or device;

(iii) A false or misleading statement about the value of the product for purposes other than as a pesticide or device;

(iv) A false or misleading comparison with other pesticides or devices;

(v) Any statement directly or indirectly implying that the pesticide or device is recommended or endorsed by any agency of the Federal Government;

(vi) The name of a pesticide which contains two or more principal active ingredients if the name suggests one or more but not all such principal active ingredients even though the names of the other ingredients are stated elsewhere in the labeling;

(vii) A true statement used in such a way as to give a false or misleading impression to the purchaser;

(viii) Label disclaimers which negate or detract from labeling statements required under the Act and these regulations;

(ix) Claims as to the safety of the pesticide or its ingredients, including statements such as "safe," "nonpoisonous," "noninjurious," "harmless" or "nontoxic to humans and pets" with or without such a qualifying phrase as "when used as directed"; and

(x) Non-numerical and/or comparative statements on the safety of the product, including but not limited to:

(A) "Contains all natural ingredients";

(B) "Among the least toxic chemicals known"

(C) "Pollution approved"

(6) *Final printed labeling.* (i) Except as provided in paragraph (a)(6)(ii) of this section, final printed labeling must be submitted and accepted prior to registration. However, final printed labeling need not be submitted until draft label texts have been provisionally accepted by the Agency.

(ii) Clearly legible reproductions or photo reductions will be accepted for unusual labels such as those silk-screened directly onto glass or metal containers or large bag or drum labels. Such reproductions must be of microfilm reproduction quality.

(b) *Name, brand, or trademark.* (1) The name, brand, or trademark under which the pesticide product is sold shall appear on the front panel of the label.

(2) No name, brand, or trademark may appear on the label which:

(i) Is false or misleading, or

(ii) Has not been approved by the Administrator through registration or supplemental registration as an additional name pursuant to § 162.6(b)(4)

(c) Name and address of producer, registrant, or person for whom produced. An unqualified name and address given on the label shall be considered as the name and address of the producer. If the registrant's name appears on the label and the registrant is not the producer, or if the name of the person for whom the pesticide was produced appears on the label, it must be qualified by appropriate wording such as "Packed for * * *," "Distributed by * * *," or "Sold by * * *" to show that the name is not that of the producer.

(d) *Net weight or measure of contents.* (1) The net weight or measure of content shall be exclusive of wrappers or other materials and shall be the average content unless explicitly stated as a minimum quantity.

(2) If the pesticide is a liquid, the net content statement shall be in terms of liquid measure at 68° F (20°C) and shall be expressed in conventional American units of fluid ounces, pints, quarts, and gallons.

(3) If the pesticide is solid or semisolid, viscous or pressurized, or is a mixture of liquid and solid, the net content statement shall be in terms of weight expressed as avoirdupois pounds and ounces.

(4) In all cases, net content shall be stated in terms of the largest suitable units, i.e., "1 pound 10 ounces" rather than "26 ounces."

(5) In addition to the required units specified, net content may be expressed in metric units.

(6) Variation above minimum content or around an average is permissible only to the extent that it represents deviation unavoidable in good manufacturing practice. Variation below a stated minimum is not permitted. In no case shall the average content of the packages in a shipment fall below the stated average content.

(e) *Product registration number.* The registration number assigned to the pesticide product at the time of registration shall appear on the label, preceded by the phrase "EPA Registration No.," or the phrase "EPA Reg. No." The registration number shall be set in type of a size and style similar to other print on that part of the label on which it appears and shall

(*1*) The label clearly shows that the product is intended for use only in manufacturing processes and specifies the type(s) of products involved.

(*2*) Adequate information such as technical data sheets or bulletins, is available to the trade specifying the type of product involved and its proper use in manufacturing processes;

(*3*) The product will not come into the hands of the general public except after incorporation into finished products; and

(*4*) The Administrator determines that such directions are not necessary to prevent unreasonable adverse effects on man or the environment.

(B) Detailed directions for use may be omitted from the labeling of pesticide products for which sale is limited to physicians, veterinarians, or druggists, provided that:

(*1*) The label clearly states that the product is for use only by physicians or veterinarians;

(*2*) The Administrator determines that such directions are not necessary to prevent unreasonable adverse effects on man or the environment; and

(*3*) The product is also a drug and regulated under the provisions of the Federal Food, Drug and Cosmetic Act.

(C) Detailed directions for use may be omitted from the labeling of pesticide products which are intended for use only by formulators in preparing pesticides for sale to the public, provided that:

(*1*) There is information readily available to the formulators on the composition, toxicity, methods of use, applicable restrictions or limitations, and effectiveness of the product for pesticide purposes;

(*2*) The label clearly states that the product is intended for use only in manufacturing, formulating, mixing, or repacking for use as a pesticide and specifies the type(s) of pesticide products involved;

(*3*) The product as finally manufactured, formulated, mixed, or repackaged is registered; and

(*4*) The Administrator determines that such directions are not necessary to prevent unreasonable adverse effects on man or the environment.

(2) *Contents of Directions for Use.* The directions for use shall include the following, under the headings "Directions for Use":

(i) The statement of use classification as prescribed in 162.10(j) immediately under the heading "Directions for Use."

(ii) Immediately below the statement of use classification, the statement "It is a violation of Federal law to use this product in a manner inconsistent with its labeling."

(iii) The site(s) of application, as for example the crops, animals, areas, or objects to be treated.

(iv) The target pest(s) associated with each site.

(v) The dosage rate associated with each site and pest.

(vi) The method of application, including instructions for dilution, if required, and type(s) of application apparatus or equipment required.

(vii) The frequency and timing of applications necessary to obtain effective results without causing unreasonable adverse effects on the environment.

(viii) Specific limitations on reentry to areas where the pesticide has been applied, meeting the requirements concerning reentry provided by 40 CFR Part 170.

(ix) Specific directions concerning the storage and disposal of the pesticide and its container, meeting the requirements of 40 CFR Part 165. These instructions shall be grouped and appear under the heading "Storage and Disposal." This heading must be set in type of the same minimum sizes as required for the child hazard warning (See Table in § 162.10(h)(1)(iv).)

(x) Any limitations or restrictions on use required to prevent unreasonable adverse effects, such as:

(A) Required intervals between application and harvest of food or feed crops.

(B) Rotational crop restrictions.

(C) Warnings as required against use on certain crops, animals, objects, or in or adjacent to certain areas.

(D) [Reserved]

(E) For restricted use pesticides, a statement that the pesticide may be applied under the direct supervision of a certified applicator who is not physically present at the site of application but nonetheless available to the person applying the pesticide, unless the Agency has determined that the pesticide may only be applied under the direct supervision of a certified applicator who is physically present.

(F) Other pertinent information which the Administrator determines to be necessary for the protection of man and the environment.

(j) *Statement of Use Classification.* By October 22, 1976, all pesticide products must bear on their labels a statement of use classification as described in paragraphs (j)(1) and (2) of this section. Any pesticide product for which some uses are classified for general use and others for restricted use shall be separately labeled according to the labeling standards set forth in this subsection, and shall be marketed as separate products with different registration numbers, one bearing directions only for general use(s) and the other bearing directions for restricted use(s) except that, if a product has both restricted use(s) and general use(s), both of these uses may appear on a product labeled for restricted use. Such products shall be subject to the provisions of § 162.10(j)(2).

(1) *General Use Classification.* Pesticide products bearing directions for use(s) classified general shall be labeled with the exact words "General Classification" immediately below the heading "Directions for Use." And reference to the general classification that suggests or implies that the general utility of the pesticide extends beyond those purposes and uses contained in the Directions for Use will be considered a false or misleading statement under the statutory definitions of misbranding.

(2) *Restricted Use Classification.* Pesticide products bearing direction for use(s) classified restricted shall bear statements of restricted use classification on the front panel as described below:

(i) *Front panel statement of restricted use classification.* (A) At the top of the front panel of the label, set in type of the same minimum sizes as required for human hazard signal words (see table in § 162.10(h)(1)(iv)), and appearing with sufficient prominence relative to other text and graphic material on the front panel to make it unlikely to be overlooked under customary conditions of purchase and use, the statement "Restricted Use Pesticide" shall appear.

(B) Directly below this statement on the front panel, a summary statement of the terms of restriction imposed as a precondition to registration shall appear. If use is restricted to certified applicators, the following statement is required: "For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification." If, however, other regulatory restrictions are imposed, the Administrator will define the appropriate wording for the terms of restriction by regulation.

(k) *Advertising.* [Reserved]

[40 FR 28268, July 3, 1975; 40 FR 32329, Aug. 1, 1975; 40 FR 36571, Aug. 21, 1975, as amended at 43 FR 5786, Feb. 9, 1978]

~~**§ 162.11 Criteria for determinations of unreasonable adverse effects.**~~

~~(a) *Criteria for Issuance of Notice of Intent to Deny Registration, Cancel Registration, or to Hold a Hearing*—(1) *Presumption.* (i) A rebuttable presumption shall arise that a notice of intent to deny registration pursuant to section 3(c)(6) of the Act, a notice of intent to cancel registration pursuant to section 6(b)(1) of the Act, or a notice of intent to hold a hearing to determine whether the registration should be cancelled or denied, as appropriate, shall be issued, upon a determination by the Administrator that the pesticide meets or exceeds any of the criteria for risk set forth in paragraph (a)(3) of this section. Upon such determination, the Administrator shall issue notice by certified mail to the applicant or registrant, as the case may be, stating that the applicant or registrant has the opportunity to submit evidence in rebuttal of such presumption in accordance with paragraph (a)(4) of this section. The applicant or registrant shall have forty-five (45) days from the date such notice is sent to submit evidence in rebuttal of the presumption; provided, however, that for good cause shown the Administrator may grant an additional sixty~~

cal treatment is some reference such as "See statement of practical treatment on back panel" appears on the front panel near the word "Poison" and the skull and crossbones.

(B) *Other toxicity categories.* The statement of practical treatment is not required on the front panel except as described in paragraph (h)(1)(iii)(A) of this section. The applicant may, however, include such a front panel statement at his option. Statements of practical treatment are, however, required elsewhere on the label in accord with paragraph (h)(2) of this section if they do not appear on the front panel.

(iv) *Placement and prominence.* All the require front panel warning statements shall be grouped together on the label, and shall appear with sufficient prominence relative to other front panel text and graphic material to make them unlikely to be overlooked under customary conditions of purchase and use. The following table shows the minimum type size requirements for the front panel warning statements on various sizes of labels:

Size of label front panel in square inches	Points	
	Required signal word, all capitals	"Keep out of reach of Children"
5 and under	6	6
Above 5 to 10	10	6
Above 10 to 15	12	8
Above 15 to 30	14	10
Over 30	18	12

(2) *Other required warnings and precautionary statements.* The warnings and precautionary statements as required below shall appear together on the label under the general heading "Precautionary Statements" and under appropriate subheadings of "Hazard to Humans and Domestic Animals," "Environmental Hazard" and "Physical or Chemical Hazard."

(i) *Hazard to humans and domestic animals.* (A) Where a hazard exists to humans or domestic animals, precautionary statements are required indicating the particular hazard, the route(s) of exposure and the precautions to be taken to avoid accident, injury or damage. The precautionary paragraph shall be immediately preceded by the appropriate hazard signal word.

(B) The following table depicts typical precautionary statements. These statements must be modified or expanded to reflect specific hazards.

Toxicity category	Precautionary statements by toxicity category	
	Oral, inhalation, or dermal toxicity	Skin and eye local effects
I	Fatal (poisonous) if swallowed [inhaled or absorbed through skin]. Do not breathe vapor [dust or spray mist]. Do not get in eyes, on skin, or on clothing [Front panel statement of practical treatment required.]	Corrosive, causes eye and skin damage [or skin irritation]. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful or fatal if swallowed. [Appropriate first aid statement required.]
II	May be fatal if swallowed [inhaled or absorbed through the skin]. Do not breathe vapors [dust or spray mist]. Do not get in eyes, on skin, or on clothing. [Appropriate first aid statements required.]	Causes eye [and skin] irritation. Do not get in eyes, on skin, or on clothing. Harmful if swallowed. [Appropriate first aid statement required.]
III	Harmful if swallowed [inhaled or absorbed through the skin]. Avoid breathing vapors [dust or spray mist]. Avoid contact with skin [eyes or clothing]. [Appropriate first aid statement required.]	Avoid contact with skin, eyes or clothing. In case of contact immediately flush eyes or skin with plenty of water. Get medical attention if irritation persists.
IV	[No precautionary statements required.]	[No precautionary statements required.]

(ii) *Environmental hazards.* Where a hazard exists to non target organisms excluding humans and domestic animals, precautionary statements are required stating the nature of the hazard and the appropriate precau- injury or damage. Examples of the hazard statements and the circumstances under which they [illegible] required follow:

(A) If a pesticide intended for outdoor use contains an active ingredient

(continued)

100 or less, the statement "This Pesticide is Toxic to Wildlife" is required.

(B) If a pesticide intended for outdoor use contains an active ingredient with a fish acute LC$_{50}$ of 1 ppm or less, the statement "This Pesticide is Toxic to Fish" is required.

(C) If a pesticide intended for outdoor use contains an active ingredient with an avian acute oral LD$_{50}$ of 100 mg/kg or less, or a subacute dietary LC$_{50}$ of 500 ppm or less, the statement "This Pesticide is Toxic to Wildlife" is required.

(D) If either accident history or field studies demonstrate that use of the pesticide may result in fatality to birds, fish or mammals, the statement "This pesticide is extremely toxic to wildlife (fish)" is required.

(E) For uses involving foliar application to agricultural crops, forests, or shade trees, or for mosquito abatement treatments, pesticides toxic to pollinating insects must bear appropriate label cautions.

(F) For all outdoor uses other than aquatic applications the label must bear the caution "Keep out of lakes, ponds or streams. Do not contaminate water by cleaning of equipment or disposal of wastes."

(iii) *Physical or chemical hazards.* Warning statements on the flammability or explosive characteristics of the pesticide are required as follows:

Flash point	Required text
(A) Pressurized Containers	
Flash point at or below 20° F; if there is a flashback at any valve opening	Extremely flammable. Contents under pressure. Keep away from fire, sparks, and heated surfaces. Do not puncture or incinerate container. Exposure to temperatures above 130° F may cause bursting.
Flash point above 20° F and not over 80° F or if the flame extension is more than 18 in long at a distance of 6 in from the flame	Flammable. Contents under pressure. Keep away from heat, sparks, and open flame. Do not puncture or incinerate container. Exposure to temperatures above 130° F may cause bursting.
All other pressurized containers	Contents under pressure. Do not use or store near heat or open flame. Do not puncture or incinerate container. Exposure to temperatures above 130° F may cause bursting.
(B) Nonpressurized Containers	
At or below 20° F	Extremely flammable. Keep away from fire, sparks, and heated surfaces.
Above 20° F and not over 80° F	Flammable. Keep away from heat and open flame.
Above 80° F and not over 150° F	Do not use or store near heat or open flame.

(i) *Directions for Use*—(1) *General requirements*—(i) *Adequacy and clarity of directions.* Directions for use must be stated in terms which can be easily read and understood by the average person likely to use or to supervise the use of the pesticide. When followed, directions must be adequate to protect the public from fraud and from personal injury and to prevent unreasonable adverse effects on the environment.

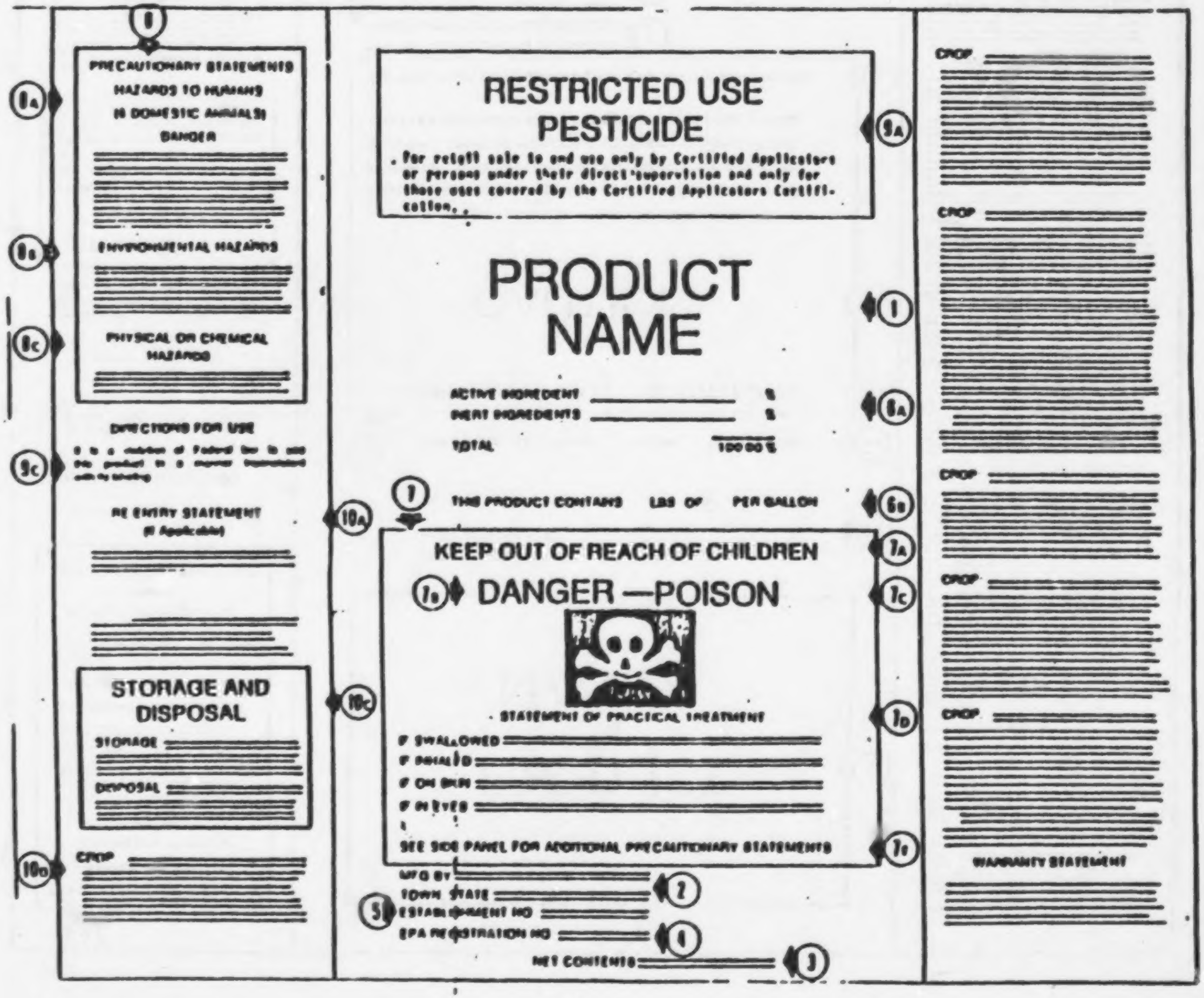
(ii) *Placement of directions for use.* Directions may appear on any portion of the label provided that they are conspicuous enough to be easily read by the user of the pesticide product. Directions for use may appear on printed or graphic matter which ac-

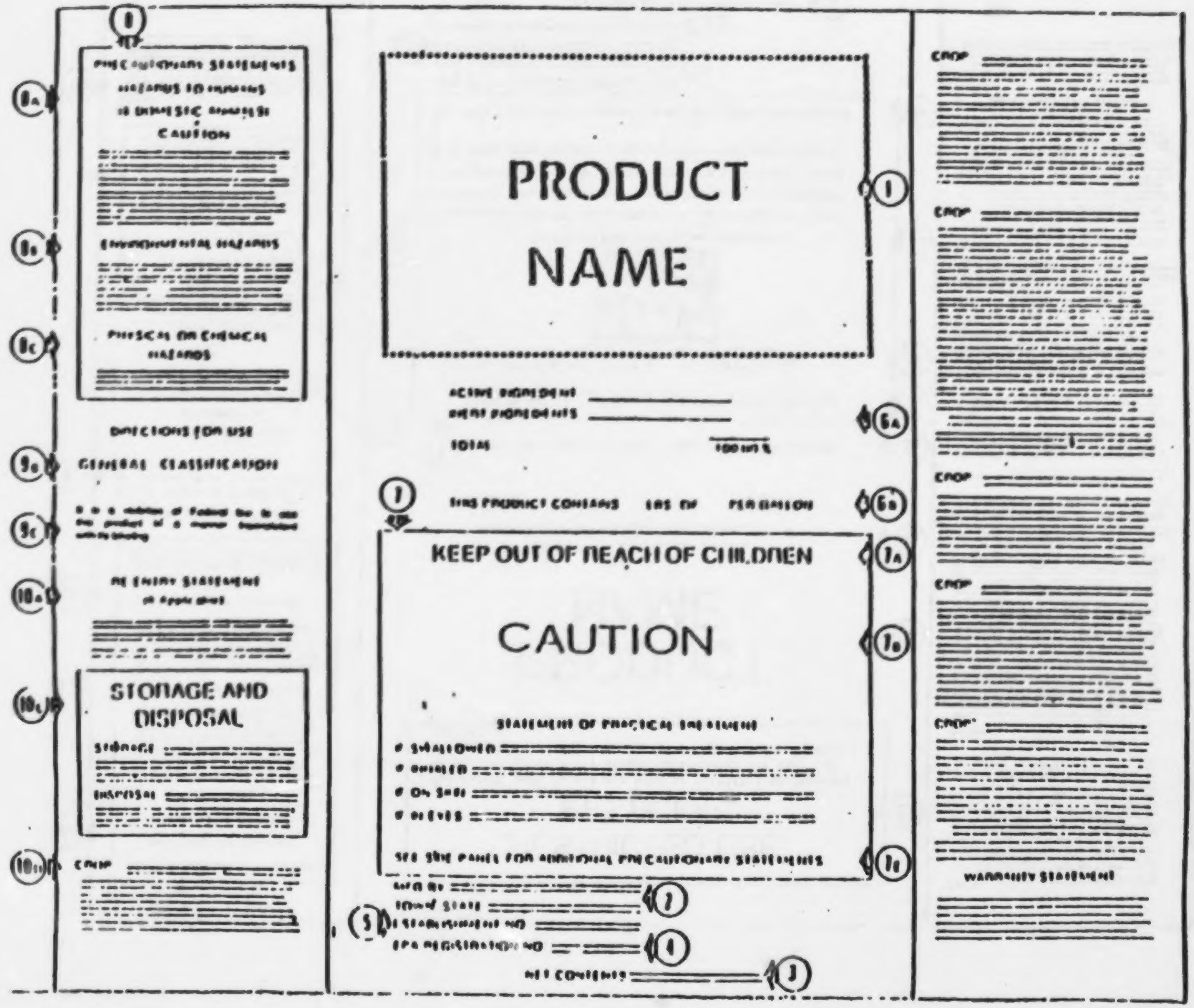
(A) If required by the Agency, such printed or graphic matter is securely attached to each package of the pesticide, or placed within the outside wrapper or bag;

(B) The label bears a reference to the directions for use in accompanying leaflets or circulars, such as "See directions in the enclosed circular;" and

(C) The Administrator determines that it is not necessary for such directions to appear on the label.

(iii) *Exceptions to requirement for direction for use*—(A) Detailed directions for use may be omitted from labeling of pesticides which are intended for use only by manufacturers of products other than pesticide products in their regular manufacturing


8
8A
PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS
(& DOMESTIC ANIMALS)
DANGER
8B
ENVIRONMENTAL HAZARDS
8C
PHYSICAL OR CHEMICAL HAZARDS
DIRECTIONS FOR USE
9C
RE ENTRY STATEMENT
(If Applicable)
10A
STORAGE AND DISPOSAL
10C
STORAGE
DISPOSAL
10D
CROP
RESTRICTED USE PESTICIDE
For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicators Certification.
9A
PRODUCT NAME
1
ACTIVE INGREDIENT %
INERT INGREDIENTS %
TOTAL 100.00%
6A
7
THIS PRODUCT CONTAINS LBS OF PER GALLON
6B
KEEP OUT OF REACH OF CHILDREN
7A
7B
DANGER —POISON
7C
STATEMENT OF PRACTICAL TREATMENT
7D
IF SWALLOWED
IF INHALED
IF ON SKIN
IF IN EYES
SEE SIDE PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS
7E
MFG BY
TOWN STATE
2
5
ESTABLISHMENT NO
EPA REGISTRATION NO
4
NET CONTENTS
3
CROP
CROP
CROP
CROP
CROP
WARRANTY STATEMENT


8
8A
PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS
& DOMESTIC ANIMALS
CAUTION
8B
ENVIRONMENTAL HAZARDS
8C
PHYSICAL OR CHEMICAL
HAZARDS
DIRECTIONS FOR USE
9A
GENERAL CLASSIFICATION
9C
It is a violation of Federal law to use this product in a manner inconsistent with its labeling
10A
RE-ENTRY STATEMENT
(If Applicable)
10B
STORAGE AND
DISPOSAL
STORAGE
DISPOSAL
10C
CROP
PRODUCT
NAME
1
ACTIVE INGREDIENT
INERT INGREDIENTS
TOTAL
100.00%
6A
THIS PRODUCT CONTAINS LBS OF PER GALLON
6B
7
KEEP OUT OF REACH OF CHILDREN
7A
CAUTION
7B
STATEMENT OF PRACTICAL TREATMENT
IF SWALLOWED
IF INHALED
IF ON SKIN
IF IN EYES
SEE SIDE PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS
7C
MFD BY
TOWN, STATE
2
5
ESTABLISHMENT NO
EPA REGISTRATION NO
4
NET CONTENTS
3
CROP
CROP
CROP
CROP
CROP
WARRANTY STATEMENT

PHYS/CHEM-1

PHYSICAL/CHEMICAL HAZARDS

Criteria	Required Label Statement
I. Pressurized Containers	
A. Flashpoint at or below 20'F; or if there is a flashback at any valve opening.	Extremely flammable. Contents under pressure. Keep away from fire, sparks, and heated surfaces. Do not puncture or incinerate container. Exposure to temperatures above 130'F may cause bursting.
B. Flashpoint above 20'F and not over 80'F; or if the flame extension is more than 18 inches long at a distance of 6 inches from the valve opening.	Flammable. Contents under pressure. Keep away from heat, sparks, and flame. Do not puncture or incinerate container. Exposure to temperatures above 130'F may cause bursting.
C. All Other Pressurized Containers	Contents under pressure. Do not use or store near heat or open flame. Do not puncture or incinerate container. Exposure to temperatures above 130'F may cause bursting.
II. Non-Pressurized Containers	
A. Flashpoint at or below 20'F.	Extremely flammable. Keep away from fire, sparks, and heated surfaces.
B. Flashpoint above 20'F and not over 80'F.	Flammable. Keep away from heat and open flame.
C. Flashpoint over 80'F and not over 150'F.	Do not use or store near heat and open flame.
D. Flashpoint above 150'F.	None required.

STOR-1

STORAGE INSTRUCTIONS FOR PESTICIDES

Heading:

All products are required to bear specific label instructions about storage and disposal. Storage and disposal instructions must be grouped together in the directions for use portion of the label under the heading STORAGE AND DISPOSAL. Products intended solely for domestic use need not include the heading "STORAGE AND DISPOSAL."

Storage Instructions:

All product labels are required to have appropriate storage instructions. Specific storage instructions are not prescribed. Each registrant must develop his own storage instructions, considering, when applicable, the following factors:

1. Conditions of storage that might alter the composition or usefulness of the pesticide. Examples could be temperature extremes, excessive moisture or humidity, heat, sunlight, friction, or contaminating substances or media.

2. Physical requirements of storage which might adversely affect the container of the product and its ability to continue to function properly. Requirements might include positioning of the container in storage, storage or damage due to stacking, penetration of moisture, and ability to withstand shock or friction.

3. Specifications for handling the pesticide container, including movement of container within the storage area, proper opening and closing procedures (particularly for opened containers), and measures to minimize exposure while opening or closing container.

4. Instructions on what to do if the container is damaged in any way, or if the pesticide is leaking or has been spilled, and precautions to minimize exposure if damage occurs.

5. General precautions concerning locked storage, storage in original container only, and separation of pesticides during storage to prevent cross-contamination of other pesticides, fertilizer, food, and feed.

6. General storage instructions for household products should emphasize storage in original container and placement in locked storage areas.

PESTICIDE DISPOSAL INSTRUCTIONS

The label of all products, except those intended solely for domestic use, must bear explicit instructions about pesticide disposal. The statements listed below contain the exact wording that must appear on the label of these products:

1. The labels of all products, except domestic use, must contain the statement, "Do not contaminate water, food, or feed by storage or disposal."

2. Except those products intended solely for domestic use, the labels of all products that contain active ingredients that are Acute Hazardous Wastes (see list in this Appendix) or are assigned to Toxicity Category I on the basis of oral or dermal toxicity, skin or eye irritation potential, or Toxicity Category I or II on the basis of acute inhalation toxicity must bear the following pesticide disposal statement:

> "Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance."

3. The labels of all products, except those intended for domestic use, containing active or inert ingredients that are Toxic Hazardous Wastes (see list in this Appendix) or meet any of the criteria in 40 CFR 261, Subpart C for a hazardous waste must bear the following pesticide disposal statement:

> "Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance."

4. Labels for all other products, except those intended for domestic use, must bear the following pesticide disposal statement:

> "Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility."

5. Products intended for domestic use only must bear the following disposal statement: "Securely wrap original container in several layers of newspaper and discard in trash."

PESTICIDE ACTIVE INGREDIENTS THAT ARE ACUTE HAZARDOUS WASTES

I. PESTICIDES ON THE "E" LIST (with RCRA # and CAS
[40 CFR 261.33(e)]

Acrolein	P003	107-13-1
Aldicarb	P070	116-06-3
Aldrin	P004	309-00-2
Allyl alcohol	P005	107-18-6
Aluminum phosphide	P006	1302-45-0
4-Aminopyridine (Avitrol)	P008	504-24-5
Arsenic acid	P010	7778-39-4
Arsenic pentoxide	P011	1303-28-2
Arsenic trioxide	P012	1327-53-3
Calcium cyanide	P021	592-01-8
Carbon disulfide	P022	75-15-0
p-Chloroaniline	P024	106-47-8
Cyanides (soluble cyanide salts not otherwise specified)	P030	
Cyanogen chloride	P031	506-77-4
Dieldrin	P037	60-57-1
O,O-Diethyl S-[2-ethylthio)ethyl] phosphorodithioate (disulfoton)	P039	298-04-4
O,O-Diethyl O-pyrazinyl phosphorothioate (Zinophos\)	P040	297-97-2
Dimethoate	P044	60-51-5
O,O-Dimethyl O-p-nitrophenyl phosphorothioate (methyl parathion)	P071	298-00-0
4,6-Dinitro-o-cresol and salts	P047	534-52-1
4,6-Dinitro-o-cyclohexylphenol	P034	131-89-5
Dinoseb	P020	88-85-7
Endosulfan	P050	115-29-7
Endothall	P088	129-67-9
Endrin	P051	72-20-8
Famphur	P097	52-85-7
Fluoroacetamide	P057	640-19-7
Heptachlor	P059	76-48-8
Hexachlorohexahydro-exo,exo-dimethanonaphthalene (Isodrin)	P069	465-73-6
Hydrocyanic acid	P063	74-90-8
Methomyl	P066	16752-77-5
alpha-Naphthylthiourea (ANTU)	P072	86-88-41
Nicotine and salts	P075	54-11-5
Octamethylpyrophosphoramide (OMPA, schradan)	P085	152-16-9
Parathion	P089	56-38-2
Phenylmercuric acetate (PMA)	P092	62-38-4
Phorate	P094	298-02-2
Potassium cyanide	P098	151-50-8
Propargyl alcohol	P102	107-19-7
Sodium azide	P105	26628-22-8
Sodium cyanide	P106	143-33-9
Sodium fluoroacetate	P058	62-74-8

Strychnine and salts	P108	57-24-9 60-41-3
O,O,O,O-Tetraethyl dithiopyrophosphate (sulfotepp)	P109	3689-24-5
Tetraethyl pyrophosphate	P111	107-49-3
Thallium sulfate	P115	7446-18-6
Thiofanox	P045	39196-18-4
Toxaphene	P123	8001-35-2
Warfarin (>0.3%)	P001	81-81-2
Zinc phosphide (>10%)	P122	1314-84-7

50 ACTIVES

II. PESTICIDES DERIVED FROM TRI-, TETRA-, AND PENTACHLOROPHENOLS [40 CFR 261.31]

2-Chloroethyl 2-(2,4,6-trichlorophenoxy) ethyl ether	F027	5324-22-1
Dehydroabietylammonium pentachlorophenoxide	F027	35109-57-0
Erbon	F027	136-25-4
O-ethyl O-(2,4,5-trichlorophenyl) ethylphosphonothioate	F027	327-98-0
2,2'-Methylenebis (3,4,6-trichlorophenol) (Hexachlorophene)	F027	70-30-4
--Potassium salt of	F027	67923-62-0
--Sodium salt of	F027	3247-34-5
--Disodium salt of	F027	5736-15-2
Pentachlorophenol	F027	87-86-5
--Potassium salt of	F027	7778-73-6
--Sodium salt of	F027	131-52-2
--Zinc salt of	F027	2917-32-0
--Zinc salt of N-alkyl (C_{16}-C_{18})-1,3-propanediamine	F027	-
--Pentachlorophenyl laurate	F027	3772-94-9
Potassium trichlorophenate (2,4,6)	F027	2591-21-1
Potassium trichlorophenate (2,4,5)	F027	35471-43-3
Silvex	F027	93-72-1
--2-Butoxyethyl ester	F027	19398-13-1
--Butoxypolypropoxypropyl ester	F027	53404-07-2
--Butoxypropyl ester	F027	25537-26-2
--Diethanolamine salt	F027	51170-59-3
--Diisopropanolamine salt	F027	53404-09-4
--Dimethylamine salt	F027	55617-85-1
--Dipropylene glycol isobutyl ether ester	F027	53535-26-5
--Ethanolamine salt	F027	7374-47-2
--2-Ethylhexyl ester	F027	53404-76-5
--Isooctyl ester	F027	53404-14-1

--Isopropanolamine salt	F027	53404-13-0
--Monohydroxylaluminum salt	F027	69622-82-8
--Polypropoxypropyl ester	F027	83562-66-7
--Potassium salt	F027	2818-16-8
--Propylene glycol isobutyl ether ester	F027	53466-74-5
--Sodium salt	F027	37913-89-6
--Triethanolamine salt	F027	17369-89-0
--Triethylamine salt	F027	53404-74-3
--Triisopropanolamine salt	F027	53404-75-4
--Tripropylene glycol isobutyl ether ester	F027	53535-30-1
Sodium 2-(2,4,5-trichlorophenoxy) ethyl sulfate	F027	3570-61-4
Tetrachlorophenols	F027	25167-83-3
--Alkylamine*amine salt (as in fatty acids of coconut oil)	F027	
--Potassium salt	F027	53535-27-6
--Sodium salt	F027	25567-55-9
2,4,5-Trichlorophenol	F027	95-95-4
2,4,6-Trichlorophenol	F027	88-06-2
2,4,5-Trichlorophenol salt of 2,6-bis[(dimethylamino)methyl] cyclohexanone	F027	53404-83-4
2,4,5-Trichlorophenol, sodium salt	F027	136-32-3
2,4,6-Trichlorophenol, sodium salt	F027	3784-03-0
2,4,5-Trichlorophenoxyacetic acid	F027	93-79-8
--Alkyl C-12 amine salt	F027	53404-84-5
--Alkyl C-13 amine salt	F027	53404-85-6
--Alkyl C-14 amine salt	F027	53535-37-8
--N,N-diethylethanolamine salt	F027	53404-86-7
--Dimethylamine salt	F027	6369-97-7
--N,N-dimethyllinoleylamine salt	F027	53404-88-9
--N,N-dimethyloleylamine salt	F027	53404-89-0
--N-oleyl-1,3-propylene diamine salt	F027	53404-87-8
--Sodium salt	F027	13560-99-1
--Triethanolamine salt	F027	3813-14-7
--Triethylamine salt	F027	2008-46-0
--Alkyl (C3H7 - C7H9) ester	F027	
--Amyl ester	F027	120-39-8
--Butoxyethoxypropyl ester	F027	1928-58-1
--2-Butoxyethyl ester	F027	2545-59-7
--Butoxypropyl ester	F027	1928-48-9
--Butyl ester	F027	93-79-8
--Dipropylene glycol isobutyl ether ester	F027	53535-31-2
--2-Ethylhexyl ester	F027	1928-47-8
--Isobutyl ester	F027	4938-72-1

--Isopropyl ester	F027	93-78-7
--Propylene glycol isobutyl ether ester	F027	53466-86-7
--Tripropylene glycol isobutyl ether ester	F027	53535-32-3
4-(2,4,5-Trichlorophenoxy)butyric acid [2,4,5-TB]	F027	93-80-1
2-(2,4,5-Trichlorophenoxy)ethyl hydrogen sulfate [2,4,5-TES]	F027	69633-04-1
1,4',5'-Trichloro-2'-(2,4,5-trichlorophenoxy) methanesulfonanilide [Edolan U]	F027	69462-14-2

PESTICIDES THAT ARE TOXIC HAZARDOUS WASTES

PESTICIDES ON THE "F" LIST (with RCRA #, and CAS #
[40 CFR 261.33(f)]

Acetone	U002	67-64-1
Acrylonitrile*	U009	107-13-1
Amitrole	U011	61-82-5
Benzene*	U019	71-43-2
Bis(2-ethylhexyl)phthalate	U028	117-81-7
Cacodylic acid	U136	75-60-5
Carbon tetrachloride*	U211	56-23-5
Chloral (hydrate) (chloroacetaldehyde)	U034	302-17-0
Chlordane, technical*	U036	57-74-9
Chlorobenzene*	U037	108-90-7
4-Chloro-m-cresol	U039	59-50-7
Chloroform*	U044	67-66-3
o-Chlorophenol	U048	95-57-8
Creosote	U051	8021-39-4
Cresylic acid (cresols)*	U052	1319-77-3
Cyclohexane	U056	110-82-7
Cyclohexanone	U057	108-94-1
Decachlorooctahydro-1,3,4-metheno-2H-cyclobuta[c,d]-pentalen-2-one (Kepone, chlordecone)	U142	143-50-0
1,2-Dibromo-3-chloropropane (DBCP)	U066	96-12-8
Dibutyl phthalate	U069	84-74-2
S-2,3-(Dichloroallyl diisopropyl-thiocarbamate) (diallate,Avadex)	U062	2303-16-4
o-Dichlorobenzene*	U070	95-50-1
p-Dichlorobenzene*	U072	106-46-7
Dichlorodifluoromethane (Freon 12\)	U075	75-71-8
3,5-Dichloro-N-(1,1-dimethyl-2-propynyl) benzamide (pronamide, Kerb\)	U192	23950-58-5
Dichloro diphenyl dichloroethane (DDD)	U060	72-54-8
Dichloro diphenyl trichloroethane (DDT)	U061	50-29-3
Dichloroethyl ether	U025	1191-17-9
2,4-Dichlorophenoxyacetic, salts and esters (2,4-D)*	U240	94-75-7
1,2-Dichloropropane	U083	8003-19-8
1,3-Dichloropropene (Telone)	U084	542-75-6
Dimethyl phthalate	U102	131-11-3
Epichlorohydrin (1-chloro-2,3-epoxypropane)	U041	106-89-8
Ethyl acetate	U112	141-78-6
Ethyl 4,4'-dichlorobenzilate (chlorobenzilate)	U038	510-15-6

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*Proposed for deletion by TCLP proposal

Ethylene dibromide (EDB)	U067	106-93-4
Ethylene dichloride*	U077	107-06-2
Ethylene oxide	U115	75-21-8
Formaldehyde	U122	50-00-0
Furfural	U125	98-01-1
Hexachlorobenzene*	U127	118-74-1
Hexachlorocyclopentadiene	U130	77-47-4
Hexachloroethane*	U131	67-72-1
Hydrofluoric acid	U134	7664-39-3
Isobutyl alcohol*	U140	78-83-1
Lead acetate	U144	301-04-2
Lindane*	U129	58-89-9
Maleic hydrazide	U148	123-33-1
Mercury	U151	7439-97-6
Methoxychlor*	U247	72-43-5
Methyl alcohol (methanol)	U154	67-56-1
Methyl bromide	U029	74-83-9
Methyl chloride	U045	74-87-3
2,2'-Methylenebis (3,4,6-trichlorophenol) (hexachlorophene) [acute waste per 261.31]	U132	70-30-4
Methylene chloride*	U080	75-09-2
Methyl ethyl ketone*	U159	78-93-3
4-Methyl-2-pentanone (methyl isobutyl ketone)	U161	108-10-1
Naphthalene	U165	91-20-3
Nitrobenzene*	U169	98-95-3
p-Nitrophenol	U170	100-02-7
Pentachloroethane	U184	76-01-7
Pentachloronitrobenzene (PCNB)	U185	82-68-8
Pentachlorophenol* [acute waste per 261.31]	U242	87-86-5
Phenol*	U188	108-95-2
Pyridine*	U196	110-86-1
Resorcinol	U201	108-46-3
Safrole	U203	94-59-7
Selenium disulfide	U205	7488-56-4
Silvex [acute waste per 261.31]	U233	93-72-1
1,1,2,2-Tetrachloroethane*	U209	79-34-5
Tetrachloroethylene*	U210	127-18-4
2,3,4,6-Tetrachlorophenol* [acute waste per 261.31]	U212	
Thiram	U244	137-26-8
Toluene*	U220	108-88-3
1,1,1-Trichloroethane* (methyl chloroform)	U226	71-55-6
Trichloroethylene*	U228	79-01-6
Trichloromonofluoromethane (Freon 11\)	U121	75-69-4
2,4,5-Trichlorophenol* [acute waste per 261.31]	U230	95-95-4
2,4,6-Trichlorophenol* [acute waste per 261.31]	U231	88-06-2

2,4,5-Trichlorophenoxyacetic acid (2,4,5-T)* [acute waste per 261.31]	U232	93-76-5
Warfarin (<0.3%)	U248	81-81-2
Xylene	U239	1330-20-7
Zinc phosphide (<10%)	U249	1314-84-7

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CONTAINER DISPOSAL INSTRUCTIONS

The label of each product must bear container disposal instructions appropriate to the type of container.

1. Domestic use products must bear one of the following container disposal statements:

Container Type	Statement
Non-aerosol products (bottles, cans, jars)	Do not reuse container (bottle, can, jar). Rinse thoroughly before discarding in trash.
Non-aerosol products (bags)	Do not reuse bag. Discard bag in trash.
Aerosol products	Replace cap and discard containers in trash. Do not incinerate or puncture.

2. All other products must bear container disposal instructions, based on container type, listed below:

Container Type	Statement
Metal containers (non-aerosol)	Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.
Plastic containers	Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.
Glass containers	Triple rinse (or equivalent). Then dispose of in a sanitary landfill or by other approved state and local procedures.
Fiber drums with liners	Completely empty liner by shaking and tapping sides and bottom to loosen clinging particles. Empty residue into application equipment. Then dispose of liner in a sanitary landfill or by incineration if allowed by state and local authorities. If drum is contaminated and cannot be reused[1], dispose of in the same manner.
Paper and plastic bags	Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.
Compressed gas cylinders	Return empty cylinder for reuse (or similar wording)

[1] Manufacturer may replace this phrase with one indicating whether and how fiber drum may be reused.

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O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

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O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE*

TYPE PESTICIDE: Insecticide, Acaricide, Tadpole shrimp control agent

FORMULATIONS:
Tech (80%, 83.5%)
FI (25%)
D (1.25%, 1.5%, 1.8%, 2%, 2.5%, 3.7%)
WP (15%, 20%, 25%, 40%)
Mcap (2 lb/gal)
EC (0.5 lb/gal, 0.75 lb/gal, 0.99 lb/gal, 1 lb/gal, 1.5 lb/gal, 1.6 lb/gal, 2 lb/gal, 2.85 lb/gal, 3 lb/gal, 4 lb/gal, 4.2 lb/gal, 5 lb/gal, 6 lb/gal, 7.2 lb/gal, 7.5 lb/gal, 8 lb/gal, 15.9%, 16.8%, 45.62%)
RTU (3 lb/gal)

GENERAL WARNINGS AND LIMITATIONS: RESTRICTED USE PESTICIDE.
HANDLE THE CONCENTRATE ONLY WHEN WEARING THE FOLLOWING PROTECTIVE CLOTHING AND EQUIPMENT:
Wear a protective suit of 1 or 2 pieces that covers all parts of the body except the head, hands, and feet. Wear chemical resistant gloves, chemical resistant apron, and chemical resistant shoes, shoe coverings, or boots. Wear goggles or a face shield. Wear a pesticide respirator approved by the National Institute for Occupational Safety and Health under the provisions of 30 CFR part II.
If handling the concentrate with a closed system--long-sleeve shirt and long-legged pants may be substituted for the protective suit, and the respirator requirement is waived.
WEAR THE FOLLOWING PROTECTIVE CLOTHING DURING APPLICATION, EQUIPMENT REPAIR, EQUIPMENT CLEANING, AND DURING EARLY REENTRY TO TREATED AREAS:
Wear a protective suit of 1 or 2 pieces that covers all parts of the body except the head, hands, and feet. Wear chemical resistant gloves and chemical resistant boots, shoes, or shoe coverings.
During application only from a tractor with a completely enclosed car or aerially with an enclosed cockpit--long-sleeve shirt and long-legged pants may be worn in place of the above protective clothing. Chemical resistant gloves must be available in the cab or cockpit and must be worn while exiting. This clothing is inadequate to protect you during equipment repair, cleaning or reentry.
Workers entering treated fields within 48 hours must wear protective clothing. Do not apply with hand equipment.
Shrimp and crabs may be killed at labeled application rates.
Do not apply where these are important resources. Refer to labeling for appropriate ENDANGERED SPECIES LIMITATIONS.
Bee Caution:
Methyl parathion is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply methyl parathion or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

*Methyl Parathion
Metacide
o,o-dimethyl O-p-nitrophenyl thiophospate

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Agricultural Crop Tolerances (other than those listed in the text):

Avocados	1.0 ppm
Blackberries	1.0 ppm
Blueberries (huckleberries)	1.0 ppm
Boysenberries	1.0 ppm
Citrus fruits	1.0 ppm
Cranberries	1.0 ppm
Currants	1.0 ppm
Dates	1.0 ppm
Dewberries	1.0 ppm
Endive (escarole)	1.0 ppm
Figs	1.0 ppm
Filberts	0.1 ppm
Garlic	1.0 ppm
Guar beans	0.2 ppm
Guavas	1.0 ppm
Lentils	1.0 ppm
Loganberries	1.0 ppm
Mangoes	1.0 ppm
Okra	1.0 ppm
Olives	1.0 ppm
Parsley	1.0 ppm
Parsnips (with or without tops)	1.0 ppm
Parsnip greens (alone)	1.0 ppm
Pineapple	1.0 ppm
Quinces	1.0 ppm
Radishes (with or without tops)	1.0 ppm
Rape seed	0.2 ppm
Raspberries	1.0 ppm
Sugarcane	0.1 ppm
Sugarcane fodder	0.1 ppm
Sugarcane forage	0.1 ppm
Swiss chard	1.0 ppm
Walnuts	0.1 ppm
Youngberries	1.0 ppm

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O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

Site and Pest | **Dosages and Formulation(s)** | **Tolerance, Use, Limitations**

TERRESTRIAL FOOD CROPS

General Warnings and Limitations: Do not plant any food or feed crop in methyl parathion treated soil other than those with registered methyl parathion uses. Unless otherwise specified, apply for thorough coverage of crop-plants. Apply when damaging or potentially damaging infestations of the pest appear, continue at 7 day intervals as needed. Formulations requiring dilution, unless otherwise specified, apply in sufficient water for thorough coverage. May be applied by aircraft.
For armyworm on vegetable and field crops, labeling claims control is effective only up to third instar.

(Agricultural Crops)

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/23001AA	Alfalfa		1.25 ppm (alfalfa (fresh)) 5 ppm (alfalfa hay) 1 ppm (clover, vetch) 15 day preharvest interval through 1 pound per acre for foliar application. 20 day preharvest interval through 1.25 pounds per acre for foliar application. Do not apply when temperatures are below 70 F (21.1 C).
/23003AA	Clover		
/23010AA	Vetch		
ITBJADA	Alfalfa caterpillar	0.234-1.25 lb/A (2-2.5% D) (25-40% WP) (4-8 lb/gal EC) (45.62% EC) —OR MAI— [W/PARATHION] 0.094-1.25 lb/A (2-4 lb/gal EC)	Foliar application. Alfalfa weevil larvae-apply when 75 percent of the terminals show feeding damage or when larvae count equals 25 larvae per sweep. Spotted alfalfa aphid-apply 0.25 to 0.5 pound per acre in the early spring. In CA and NV apply 0.094 to 0.375 pound per acre for alfalfa weevil larvae. OR MAI Formulated with parathion.
IRACAAA	Aphids (including spotted alfalfa aphid)		
INASBWJ	Alfalfa weevil (adults)		
INASBWC	Alfalfa weevil (larvae)		
ITBCCFC	Armyworm (larvae)		
ITBCCZA	Climbing cutworms		
INASBXA	Clover leaf weevil		
INASBTA	Egyptian alfalfa weevil		
IVABAAA	Grasshoppers		
ITBCCCA	Green cloverworm		
IRAFAAA	Leafhoppers		
IQAMARA	Lygus bugs		
ILAAABA	Mites (including spider mites)		
IMOAAAA	Thrips		
INAGACA	Vetch bruchids		
ITAAAMA	Webworms AND MAI		

EPA Compendium of Acceptable Uses

0,0-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Alfalfa cluster (continued)		
	Pest list continued from previous page.		
INBGAAA	Blister beetles		
ITBCABA	Cutworms		
INAMADA	Flea beetles		
IMAAAEA	Leafrollers		
IQAQAAA	Stink bugs		
/23001AA	(Alfalfa)		
ITBJADA	Alfalfa caterpillar	[W/METHOXY-CHLOR] 0.25-1 lb/A (0.5-1 lb/gal EC)	Foliar application. Formulated with methoxychlor.
INASBWC	Alfalfa weevil (larvae)		
ITBMBUA	Alfalfa webworm		
ITBCCFA	Armyworm		
ITBCCOA	Fall armyworm		
INAMADA	Flea beetles		
INBPAZA	Japanese beetle		
IRAFAAA	Leafhoppers		
IRAEAAA	Spittlebug		
INASEJA	Alfalfa weevil complex	0.5 lb/A (2 lb/gal Mcap)	Foliar application. Do not apply during bloom.
IRACAIA	Pea aphid		
IRACFGA	Blue alfalfa aphid	0.375 lb/A (2 lb/gal Mcap)	Use limited to AZ and CA. Foliar application. Do not apply during bloom.
INASBWC	Alfalfa weevil (larvae)	0.195 lb/A (5 lb/gal EC)	Foliar application. Apply when buds and shoots appear ragged or larvae count equals 15 larvae per sweep.
/23001AA	(Alfalfa)		
/23003AA	(Clover)		
ITBJADA	Alfalfa caterpillar	[W/CARBARYL] 0.125-0.188 lb/A (1.25% D)	Foliar application. Formulated with carbaryl.
IRACAAA	Aphids		
ITBCCFA	Armyworm		
IVABAAA	Grasshoppers		
IRAFAAA	Leafhoppers		
IMOAAAA	Thrips		
ITAAAMA	Webworms		

0,0-DIMETHYL 0-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/23001BA	Alfalfa (seed crop)		1.25 ppm (alfalfa (fresh)) 5 ppm (alfalfa hay) 1 ppm (clover) Do not feed treated forage to dairy animals or animals being finished for slaughter.
/23003BA	Clover (seed crop)		
ISAQAFA	Alfalfa seed chalcid	0.25-1.25 lb/A (4-7.5 lb/gal EC) —OR MAI— [W/PARATHION] 0.188-0.375 lb/A (3 lb/gal EC)	Foliar application to seed crop. OR MAI Formulated with parathion.
ISAQAFA	Clover seed chalcid		
/23001BA	(Alfalfa (seed crop))		
IRACAAA	Aphids	[W/ENDOSULFAN] 0.5-1.25 lb/A (1.5-2 lb/gal EC)	Foliar application to seed crop. Formulated with endosulfan.
ITBCCFC	Armyworm (larvae)		
IRAFAAA	Leafhoppers		
IQAMARA	Lygus bugs		
ILAAABA	Mites		
/03001AA	Almonds		0.1 (N) ppm (almonds) 3.0 ppm (almond hulls) Do not apply after hulls open through 6 pounds per acre.
ITUBAGA	Fruittree leafroller	0.5-1 lb/100 gal [max 600 gal/A] (4 lb/gal EC) —OR MAI— [W/PARATHION] 0.125-0.25 lb/100 gal (3 lb/gal EC)	Dormant and delayed dormant application. May be tank mixed with dormant oils. OR MAI Formulated with parathion. Scales-tank mix with dormant oils.
ILAAABB	Mites (eggs)		
IRAKBPA	Parlatoria scale		
ITAMABA	Peach twig borer		
IRAKBYA	San Jose scale		
ITAUADA	Tent caterpillars		
	AND MAI		
IRACAAA	Aphids		
IMAAAEA	Leafrollers		
ITBUCJA	Oriental fruit moth		
IRAAABA	Scales		
ILAVAAA	Spider mites		

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/04001AA	**Apple**		1 ppm 14 day preharvest interval through 6 pounds per acre for foliar application. Do not apply to Cortland, McIntosh and related varieties as fruit or foliage injury may occur.
IRACAAA ITBUCSA ILAVASA INASAVA ITBUCJA ITBUAPA IRAAABA ITBUDHA ISBEARA ITBUAGA IVABAAA INBPAZA IRAFAAA IMAAAGA IRAWAAA ITBUALA ILAVAAA	Aphids Codling moth European red mite Plum curculio Oriental fruit moth Redbanded leafroller Scales AND MAI Eyespotted bud moth European apple sawfly Fruittree leafroller Grasshoppers Japanese beetle Leafhoppers Leafminers Mealybugs Orange tortrix Spider mites	0.25-0.5 lb/100 gal (25-40% WP) or 0.25-1 lb/100 gal (4-8 lb/gal EC) —OR MAI— [W/EPN] 4-5 lb/A [60-800 gal/A] (3 lb/gal EC) or [W/PARATHION] 0.094-0.5 lb/100 gal (3-4 lb/gal EC)	Foliar application. Codling moth, plum curculio, and redbanded leafroller-apply at petal fall. Make 3 to 4 applications at 7 to 14 day intervals. OR MAI Formulated with EPN or parathion. Eyespotted bud moth-delayed dormant application.
ITBUCSA INASAVA IRAKBYA	Codling moth Plum curculio San Jose scale	0.25-0.5 lb/100 gal or 1-2 lb/A [concentrate] (2 lb/gal Mcap)	Foliar application. Do not tank mix with streptomycin. San Jose scale-use limited to the Northwest. Apply the maximum dosage for plum curculio and for heavy infestations of codling moth and San Jose scale.
ILAVASA	European red mite	0.125-0.5 lb/100 gal (4-8 lb/gal EC)	Foliar application. Make 2 applications at 5 day intervals. Apply during prebloom if control is not achieved during a regular spray program.

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/C5001AA	Apricot		1 ppm 14 day preharvest interval through 0.25 pound per hundred gallons of water or 2.5 pounds per acre for foliar application.
IRACAAA ILAVASA ITBUCSA ITBUDHA ITBUAGA ITBUCJA ITAMABA ITBUALA	Aphids European red mite AND MAI Codling moth Eyespotted bud moth Fruittree leaf-roller Oriental fruit moth Peach twig borer Orange tortrix	0.117-0.25 lb/100 gal or 0.625-2.5 lb/A (4-7.5 lb/gal EC) —OR MAI— [W/PARATHION] 0.094-0.25/100 gal (3 lb/gal EC)	Foliar application. European red mite-make 2 applications at 5 day intervals. OR MAI Formulated with parathion.
/13018AA	Artichoke		1 ppm 7 day preharvest interval through 1 pound per acre for foliar application.
IRACAAA ITBUFAA ITBLABA ITBCABA INAMADA IRAFAAA ILAAABA ICAMAAA	Aphids Armyworm (larvae) Artichoke plume moth Cutworms (including surface feeding and climbing cutworms) Flea beetles Leafhoppers Mites Plant bugs	0.47-1 lb/A (25-40% WP) (4-8 lb/gal EC) (43.62% EC) —OR MAI— [W/PARATHION] 0.3-1 lb/A (2-4 lb/gal EC) or [W/ENDOSULFAN] 0.25-1 lb/A (2.5% D) or (15% WP) (1-2 lb/gal EC)	Foliar application. Apply 1 pound per acre for artichoke plume moth and cutworms. If plants are cut in April and May begin applications for artichoke plume moth after September. Repeat at 14 to 21 day intervals as needed through December. Apply at 30 day intervals in January and February and 14 day intervals from March through the end of the picking season. OR MAI Formulated with parathion or endosulfan.

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O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/24001AA	Barley	-	0.5 ppm (rye (interim)) 1.0 ppm (barley, oats, wheat) No preharvest interval through 0.25 pound per acre for foliar application. 15 day preharvest interval through 0.75 pound per acre for foliar application. Do not apply after heads form through 1.25 pounds per acre for foliar application.
/24003AA	Oats		
/24005AA	Rye		
/24007AA	Wheat		
IRACAAA	Aphids	0.117-1.25 lb/A (2-2.5% D) (25-40% WP) (1.5-8 lb/gal EC) (43.62% EC)	Foliar application. Apply 0.75 pound per acre for chinch bug, false chinch bug, and Say stink bug (emulsifiable concentrate). Dosages 0.117 through 1.25 pound per acre may be applied for aphids, black grass bug, (emulsifiable concentrate).
ITBCCFC	Armyworm (larvae)		
IMOCAMA	Barley thrips		
IQAMAJA	Black grass bug		
ITBCCZA	Climbing cutworms		
IQALAEA	Chinch bug		
IQALAHA	False clinch bug		
IVABAAA	Grasshoppers		
IRAFAAA	Leafhoppers	—OR MAI—	
IQAMARA	Lygus bugs		OR MAI
IQAQAEA	Say stink bug	[W/PARATHION] 0.094-0.5 lb/A (3-4 lb/gal EC)	Formulated with parathion.
ILAVAAA	Spider mites (including brown wheat mite)		
IQAQAAA	Stink bugs		
ILAMABA	Winter grain mite		
	AND MAI		
INBGAAA	Blister beetles		
ITBCABA	Cutworms		
ITBCCOA	Fall armyworm		
IBCCFA	Armyworm	[W/TOXAPHENE] 0.16-1.25 lb/A (3-4 lb/gal EC)	Foliar application. Sale, distribution, or use of toxaphene is permitted only after a showing of emergency conditions to the Environmental Protection Agency by a federal or state agency and issuance by the Environmental Protection Agency of a finding that an emergency condition exists, and only as permitted by that Environmental Protection Agency finding. Formulated with toxaphene.
ITBCABA	Cutworms		
IVABAAA	Grasshoppers		

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Barley cluster (continued)		
/24007AA	(Wheat)		
IVABAAA	Grasshoppers	0.5 lb/A (2 lb/gal Mcap)	Foliar application.
IRACADNA	Greenbug	0.25-0.375 lb/A (2 lb/gal Mcap)	
/15025AA	Beans		1 ppm 15 day preharvest interval through 0.5 pound per acre for foliar application (green beans and lima beans). 15 day preharvest interval through 1.5 pounds per acre for foliar application (dry beans). 21 day preharvest interval through 1.5 pounds per acre for foliar application (green beans and lima beans). Do not apply microencapsulated formulations to snap beans after pods begin to form.
IRACAAA	Aphids	0.88-1 lb/A	Foliar application.
ITBCCFC	Armyworm (larvae)	(2-5% D)	
INASARA	Cowpea curculio	or	Apply 0.94 through 1.5 pounds per acre for cowpea curculio, cutworms, and stink bugs (emulsifiable concentrate).
ITBCABA	Cutworms (including surface feeding and climbing cutworms)	0.75-1.5 lb/A (25-40% WP) or 0.31-1.5 lb/A	OR MAI
INAMADA	Flea beetles	(4-8 lb/gal	Formulated with methoxychlor, EPN, carbaryl, parathion, or endosulfan.
IRAFAAA	Leafhoppers	EC)	
IMAAAGA	Leafminers	(43.62% EC)	
INAPAFA	Mexican bean beetle		
ILAAABA	Mites	—OR MAI—	
IQAMAAA	Plant bugs (including lygus bugs)	[W/METHOXYCHLOR]	
IQAQAAA	Stink bugs		
	AND MAI	0.25-1 lb/A	
INAMARA	Bean leaf beetle	(0.5-1 lb/gal EC)	
ITBCAWA	Bean leafskeletonizer	or	
ITASAEA	Bean leafroller		
ITBCBOA	Corn earworm		
INAMACA	Cucumber beetles		

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0,0-DIMETHYL 0-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Beans (continued)		
	Pest list continued from previous page.		
INBUAAA	Darkling beetles	[W/EPN] 0.475-1.5 lb/A (2.85-4 lb/gal EC) or [W/CARBARYL] 0.125-1 lb/A (1.25-2.5% D) or [W/PARATHION] 0.094-1.5 lb/A (2-4 lb/gal EC) or 0.22 lb/A (3.7% D) or 0.2 lb/A (20% WP) or [W/ENDOSULFAN] 1 lb/A (25% D) or 0.45-1 lb/A (15% WP) or 0.25-1 lb/A (1-2 lb/gal EC)	
IVABAAA	Grasshoppers		
INBPAZA	Japanese beetle		
IMAAAZA	Leafrollers		
ITBMBFA	Limabean pod borer		
INAGADA	Pea weevil		
IMDAAAA	Thrips		
ITBCATA	Velvet bean caterpiller		
ITAAAMA	Webworms		
IRABAAA	Whiteflies		
INAPAFA	Mexican bean beetle	0.5 lb/A (2 lb/gal Mcap)	Use limited to the southeastern United States. Foliar application.

0,0-DIMETHYL 0-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/28002AA	Beets		1 ppm (beets (with or without tops)) (beet greens (alone)) 15 day preharvest interval through 0.5 pound per acre for foliar application (roots). 21 day preharvest interval through 1 pound per acre for foliar application (roots and tops).
IRACAAA	Aphids	0.63 lb/A	Foliar application. Apply 1 pound per acre for cabbage looper, plant bugs, and stink bugs (emulsifiable concentrate). OR MAI Formulated with parathion.
ITBCCFC	Armyworm (larvae)	(2.5% D)	
ITBCCSA	Cabbage looper	or	
INAMADA	Flea beetles	0.5-1 lb/A	
IRAFAAA	Leafhoppers	(25-40% WP)	
IMAAAGA	Leafminers	or	
ILAAABA	Mites	0.44-1 lb/A	
IQAMAAA	Plant bugs (including lygus bugs)	(4-8 lb/gal EC)	
IQAQAAA	Stink bugs AND MAI	(43.62% EC)	
INBGAAA	Blister beetles	--OR MAI--	
INASCCA	Vegetable weevils		
ITAAAMA	Webworms	[W/PARATHION] 0.125-1 lb/A (2-4 lb/gal EC)	
/23011AA	Birdsfoot Trefoil		1.25 ppm (forage) 5.0 ppm (hay) This use occurs only on Intrastate labeling and has not been summarized in this entry. Refer to appropriate labeling for use information and limitations.

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	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/13005AA	Broccoli		1 ppm 7 day preharvest interval through 0.5 pound per acre for foliar application (except cabbage). 10 day preharvest interval through 0.5 pound per acre for foliar application (cabbage). 21 day preharvest interval through 1.5 pound per acre for foliar application.
/13006AA	Brussels Sprouts		
/13007AA	Cabbage		
/13008AA	Cauliflower		
IRACAAA	Aphids	0.88 lb/A (2.5% D) or 0.75-1.5 lb/A (20-40% WP) or 0.23-1.5 lb/A (4-8 lb/gal EC) (43.62% EC)	Foliar application. Apply 0.94 through 1.5 pound per acre for cabbage looper, imported cabbageworm, and stink bugs (emulsifiable concentrate). OR MAI Formulated with methoxychlor, parathion, or endosulfan.
ITBCCFA	Armyworm (larvae)		
ITBCCSA	Cabbage looper		
INAMADA	Flea beetles		
ITBJAHA	Imported cabbageworm		
IRAFAAA	Leafhoppers		
IMAAAGA	Leafminers		
ILAAABA	Mites		
IQAMAAA	Plant bugs		
IQAQAAA	Stink bugs		
IMOAAAA	Thrips	—OR MAI--	
	AND MAI	[W/METHOXYCHLOR] 0.25-1 lb/A (0.5-1 lb/gal EC) or [W/PARATHION] 0.094-1.5 lb/A (2-4 lb/gal EC) or [W/ENDOSULFAN] 1 lb/A (2.5% D) or 0.45-0.6 lb/A (15% WP) or 0.25-1 lb/A (1-2 lb/gal EC)	
ITBCCZA	Climbing cutworms		
ITBMBHA	Cross-striped cabbageworm		
ITCHACA	Diamondback moth		
INASCCA	Vegetable weevil		

0,0-DIMETHYL 0-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Broccoli cluster (continued)		
/13005AA INAMADA	(Broccoli) Flea beetles	[W/CARBARYL] 0.5 lb/A (2% D)	Foliar application. Formulated with carbaryl.
ITBCCFA ITBCBOA	Armyworm Corn earworm	[W/CARBARYL] 1 lb/A (2% D)	
/13005AA /13007AA /13008AA IRACAAA ITBJAHA	(Broccoli) (Cabbage) (Cauliflower) Aphids Imported cabbageworm	[W/BACILLUS THURINGIENSIS] 0.87-1 lb/A (2% D)	Foliar application. Formulated with bacillus thuringiensis.
	Brussels Sprouts	See Broccoli cluster.	
	Cabbage	See Broccoli cluster.	
/14003AA /13002AA	Carrots Celery		1 ppm 15 day preharvest interval through 1 pound per acre for foliar application (carrot roots and celery). 20 day preharvest interval through 1 pound per acre for foliar application (carrot tops).
IRACAAA ITBCCFC ITBCCSA ITBCABA INAMADA IRAFAAA IMAAAGA ILAAABA IQAMAAA IQAQAAA INBGAAA ITBMCQA ITBHAFA	Aphids Armyworm (larvae) Cabbage looper Cutworms (including surface feeding and climbing cutworms) Flea beetles Leafhoppers Leafminers Mites Plant bugs (including lygus bugs) Stink bugs AND MAI Blister beetles Celery leaftiers Celeryworms	0.63 lb/A (2.5% D) or 0.5-1 lb/A (25-40% WP) or 0.44-1 lb/A (4-8 lb/gal EC) (43.62% EC) —OR MAI-- [W/PARATHION] 0.22 lb/A (3.7% D) or	Foliar application. Apply 1 pound per acre for cabbage looper, cutworms, plant bugs, and stink bugs (emulsifiable concentrate). OR MAI Formulated with parathion or endosulfan.

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Carrots cluster (continued)		
	Pest list continued from previous page.		
IMOAAAA INASCCA ITAAAMA	Thrips Vegetable weevil Webworms	0.15-0.2 lb/A (20-25% WP) or [W/ENDOSULFAN] 0.5-1 lb/A (2.5% D) or 0.25-0.666 lb/A (15% WP) (1-2 lb/gal EC)	
/14003AA IRAFAAA	(Carrots) Leafhoppers	[W/METHOXYCHLOR] 0.25-1 lb/A (0.5-1 lb/gal EC)	Foliar application. Formulated with methoxychlor.
	Cauliflower	See Broccoli cluster.	
	Celery	See Carrots cluster.	
'05002AA	Cherry		1 ppm 15 day preharvest interval through 0.5 pound per 100 gallons of water or 2.5 pounds per acre.
IRACAAA ILAVASA ITANABA ITAGAAA IOAPABA ITBUDHA ITAAANA IMAAAGA IMAAAEA ITBUCLA ILAAABA ITBUCJA ITBUAYA INASAVA	Aphids European red mite AND MAI Cankerworms Casebearers Drosophila Eyespotted bud moth Fruitworm Leafminers Leafrollers Lesser appleworm Mites Oriental fruit moth Pandemis moths Plum curculio	0.125-0.5 lb/100 gal or 0.625-2.5 lb/A (4-7.5 lb/gal EC) —OR MAI— [W/PARATHION] 0.125 lb/100 gal (3 lb/gal EC)	Foliar application. Repeat at 7 to 10 day intervals. OR MAI Formulated with parathion.

0,0-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Cherry (continued)		
	Pest list continued from previous page.		
INBPAUA	Rose chafer		
INASABA	Sawflies		
IRAAABG	Scale (crawlers)		
INBQBQA	Shothole borer		
IMOAAAA	Thrips		
	Clover	See Alfalfa cluster.	
/02000AA	Citrus Fruits		1 ppm This use occurs only on Intrastate labeling and has not been summarized in this entry. Refer to appropriate labeling for use information and limitations.
/13009AA	Collards		1.0 ppm 0.2 ppm (mustard seed) 10 day preharvest interval through 0.5 pound per acre for foliar application. 21 day preharvest interval through 1.5 pounds per acre for foliar application.
/13011AA	Kale		
/13021AA	Mustard Greens		
IRACAAA	Aphids	0.75-1 lb/A	Foliar application.
ITBCCFC	Armyworm (larvae)	(25-40% WP)	
ITBCCSA	Cabbage looper	or	Apply 0.94 through 1.5 pound per acre for cabbage looper, imported cabbageworm, stink bugs, and thrips (emulsifiable concentrate).
INAMADA	Flea beetles	0.23-1.5 lb/A	
ITBJAGA	Imported cabbageworm	(4-8 lb/gal EC)	
IRAFAAA	Leafhoppers	(43.62% EC)	Apply 1.5 pounds per acre for plant bugs (emulsifiable concentrate).
IMAAAGA	Leafminers		
ILAAABA	Mites	—OR MAI—	OR MAI
IQAMAAA	Plant bugs		Formulated with parathion or endosulfan.
IQAQAAA	Stink bugs	[W/PARATHION]	
IMOAAAA	Thrips AND MAI	0.22 lb/A	
ITBCABA	Cutworms	(3.7% D)	
ITCHACA	Diamond back moth	or	
IOACAHA	Seed corn maggot	0.25 lb/A	
INASCCA	Vegetable weevil	(20% WP) or	

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	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Collards cluster (continued)		
		0.094-1.5 lb/A (2-4 lb/gal EC) or [W/ENDOSULFAN] 0.75 lb/A (2.5% D) or 0.45 lb/A (15% WP) or 0.375-0.5 lb/A (1-2 lb/gal EC)	
/13009AA	(Collards)		
/13011AA	(Kale)		
INAMADA	Flea beetle	[W/METHOXYCHLOR] 0.25-0.5 lb/A (0.5-1 lb/gal EC)	Foliar application. Formulated with methoxychlor.
/28005AA	Corn		1 ppm (corn) (corn, forage) 12 day preharvest interval through 1 pound per acre for foliar application.
IRACAAA	Aphids (including corn leaf aphid)	0.188-0.5 lb/A (25-40% WP) or 0.23-0.51 lb/A (4-8 lb/gal EC) (43.62% EC) or	Foliar application. Apply 0.5 pound per acre for European corn borer (wettable powder). Apply 0.23 through 0.51 pound per acre for grasshoppers (emulsifiable concentrate). OR MAI Formulated with methoxychlor, EPN, carbaryl, or parathion.
ITBCCPC	Armyworm (larvae)		
INAMBHJ	Corn rootworms (adults)		
ITBCCZA	Climbing cutworms		
ITBMCCA	European corn borer		
ITBCCOA	Fall armyworm		
INAMADA	Flea beetles		
IVABAAA	Grasshoppers		
ILAAABA	Mites		
IQAQAAA	Stink bugs AND MAI		
IZZZADA	Budworms		
ITBCBOA	Corn earworm		
IOAXABA	Corn silk flies		

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Corn (continued)		
	Pest list continued from previous page.		
ITBCABA	Cutworms	—OR MAI—	
INBPAZA	Japanese beetle		
INBJAAA	Sap beetles	[W/METHOXYCHLOR] 0.25-1 lb/A (0.5-1 lb/gal EC) or [W/EPN] 0.18-1 lb/A (2.85-4 lb/gal EC) or [W/CARBARYL] 0.125-0.25 lb/A (1.25% D) or [W/PARATHION] 0.11 lb/A (3.7% D) or 0.094-0.28 lb/A (2-3 lb/gal EC)	
ITBMAYA	Southwestern corn borer		
ITBCCFA	Armyworm	[W/TOXAPHENE] 0.75-1 lb/A (3-4 lb/gal EC)	Foliar application. Sale, distribution, or use of toxaphene is permitted only after a showing of emergency conditions to the Environmental Protection Agency by a federal or state agency and issuance by the Environmental Protection Agency of a finding that an emergency condition exists, and only as permitted by that Environmental Protection Agency finding. Formulated with toxaphene.
ITBCABA	Cutworms		
IVABAAA	Grasshoppers		

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Corn (continued)		
/15005AA	(Corn, Sweet)		
ITBCBOA	Corn earworm	0.5 lb/A or 1 lb/A (2 lb/gal Mcap)	Foliar application. Begin applications at silking. Apply 0.5 pound per acre at 1 to 2 day intervals and 1 pound per acre at 2 to 5 day intervals.
ITBMCCA	European corn borer		
/28007AA	Cotton		0.75 ppm (cottonseed) No preharvest interval through 1.5 pounds per acre (dusts) or 1 pound per acre (other formulations) for foliar application. 7 day preharvest interval through 3 pounds per acre for foliar application. The above preharvest intervals are limited to fields harvested with mechanical pickers. 5 day handpicking interval through 1.5 pounds per acre (dusts) and 1 pound per acre (other formulations) for foliar application. Repeated applications of methyl parathion, particularly if made during the early and mid seasons may delay the maturity of cotton, reduce the yield of cotton, and may intensify infestations of cotton bollworms by suppression of its parasites and predators.
IRACAAA	Aphids	0.25-1.5 lb/A (2-5% D) or 0.188-1 lb/A (25-40% WP) or 0.125-3 lb/A (1.5-8 lb/gal EC) —OR MAI— [W/ENDRIN] 0.125-0.5 lb/A (1.52-2 lb/gal EC) or	Foliar application. Early season: Make 1 to 3 applications at the 2 to 4 leaf stage. Repeat at 7 to 10 day intervals. Apply 0.125 to 0.5 pound per acre for aphids, fleahoppers and thrips when populations reach damaging levels. Mid-Season: Apply 0.5 to 1 pound per acre for overwintering boll weevils. Make first application at the start of squaring or after 10 to 25 percent of the first squares are punctured. Repeat at 3 to 8 day intervals until tops of bolls are full grown. Major Fruiting Season and Periods of heavy boll weevil migration:
ITBCCFC	Armyworm (larvae)		
ITBCBOA	Bollworm		
INASAHA	Boll weevil		
ITBCCSA	Cabbage looper		
ITBCAOA	Cotton leafworm		
ITAYAHA	Cotton leafperforator		
ITBCABA	Cutworms		
ITBCCOA	Fall armyworm		
IQALAHA	False chinch bug		
INAMADA	Flea beetles		
IQAMBDA	Fleahoppers		
ITBMBVA	Garden webworm		
IVABAAA	Grasshoppers		
IRAFAAA	Leafhoppers		
INAAAEA	Leafrollers		
IQAMARA	Lygus bugs		

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Cotton (continued) Pest list continued from previous page.		
ILAAABA	Mites (including spider mites)	[W/EPN] 0.24-1 lb/A (2.85-4 lb/gal EC) or [W/CARBARYL] 0.125-0.5 lb/A (1.25-2.5% D) or [W/PARATHION] 0.094-3 lb/A (2-4 lb/gal EC) or [W/MALATHION] 0.56-0.75 lb/A [ulv] (3 lb/gal RTU) or 0.25-1 lb/A [dilute] (4 lb/gal EC) or [W/AZINPHOS METHYL] 0.188-1.9 lb/A (3 lb/gal EC) or [W/ENDOSULFAN] 0.28-1.5 lb/A (15% WP) (1.5-2 lb/gal EC) or	Apply 1 to 3 pounds per acre for boll weevil and bollworms. Repeat at 3 day intervals. For control of bollworms in CA make 2 to 3 applications at 3 to 4 day intervals. Repeat this series in 7 to 10 days until control is maintained. Do not sprinkle irrigate during the 3 to 4 day interval. Apply in the late afternoon or evening. For other pests listed control is obtained during boll weevil or bollworm spray programs. Otherwise apply when damaging populations threaten. OR MAI Formulated with endrin, EPN, carbaryl, parathion, malathion, azinphos methyl, endosulfan, permethrin, or carbaryl plus parathion.
ITAMAOA	Pink bollworm		
IQAMACA	Rapid plant bug		
ITABACA	Saltmarsh caterpillar		
IQAQAAA	Stink bugs		
IQAMATA	Tarnished plant bug		
IMOAAAA	Thrips		
ITBRAKA	Tobacco budworm AND MAI		
INBUAAA	Darkling beetles		
IOABADA	Serpentine leafminer complex		
ITAAAMA	Webworms		

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Cotton (continued)		
		[W/PERMETHRIN] 0.125-0.5 lb/A (5-6 lb/gal EC) or [W/CARBARYL plus PARATHION or W/PARATHION] 0.15-0.3 lb/A (1.5-3.7% D)	
ITBCCFA ITBCABA IVABAAA	Armyworm Cutworms Grasshoppers	[W/TOXAPHENE] 0.16-1.5 lb/A (0.75-4 lb/gal EC) or [W/TOXAPHENE] plus PARATHION] 0.25-0.375 lb/A (1 lb/gal EC) or [W/TOXAPHENE plus MALATHION] 0.84-1.125 lb/A (2.25 lb/gal EC)	Foliar application. Sale, distribution, or use of toxaphene is permitted only after a showing of emergency conditions to the Environmental Protection Agency by a federal or state agency and issuance by the Environmental Protection Agency of a finding that an emergency condition exists, and only as permitted by that Environmental Protection Agency finding. Formulated with toxaphene, toxaphene plus parathion, or toxaphene plus malathion.
INASAHA	Boll weevil (in absence of bollworm)	0.75 lb/A (2 lb/gal Mcap)	Foliar application. Apply when 10 to 25 percent of the squares are punctured. Repeat at 5 to 7 day intervals.
INBCBOA ITBRAKA	Bollworm Tobacco budworm	1-1.5 lb/A (2 lb/gal Mcap)	Foliar application. Apply when numbers of larvae are expected to be damaging. Make a second application 3 to 5 days later.

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Cotton (continued)		
ITBCCNA INASAHA ITBCBOA ITAYAHA ITBRAKA	Beet armyworm Boll weevil Bollworm Cotton leafperforator Tobacco budworm	0.5-1 lb/A (4-7.5 lb/gal EC)	Foliar application. Apply as an occasional spray during early and mid season with a minimum of 10 days between applications. After boll load is set make up to 3 applications at 3 to 5 day intervals. Tank mix with methomyl.
INASAHA	Boll weevil	2-4.22 oz/A (4-7.5 lb/gal EC)	Foliar application. Tank mix with EPN.
ITBCBOA	Bollworm	0.5-0.75 lb/A (4-7.5 lb/gal EC)	
IQAMAAA IMOAAAA	Plant bugs Thrips	1-2.34 oz/A (4-7.5 lb/gal EC)	
INASAHA ITBCBOA ITBRAKA	Boll weevil Bollworm Tobacco budworm	0.5-1 lb/A (4-7.5 lb/gal EC)	Foliar application. Tank mix with chlordimeform.
		0.5-0.75 lb/A (2 lb/gal Mcap)	Foliar application. Tank mix with chlordimeform hydrochloride.
		1 lb/A (4-7.5 lb/gal EC)	Foliar application. Tank mix with chlorpyrifos.
ITBCBOA ITBRAKA	Bollworm Tobacco budworm	1 lb/A (4-7.5 lb/gal EC)	Foliar application. Tank mix with acephate.
		0.5-1 lb/A (4-7.5 lb/gal EC)	Foliar application. Tank mix with permethrin.
		0.5-0.51 lb/A (4-7.5 lb/gal EC)	Foliar application. Tank mix with EPN and chlorpyrifos.

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Cotton (continued)		
ITBCBOA ITBRAKC	Bollworm Tobacco budworm (larvae)	0.5-0.51 lb/A (4-7.5 lb/gal EC)	Foliar application. Tank mix with EPN and methomyl.
/10010AA	Cucumber		1 ppm 15 day preharvest interval through 1 pound per acre for foliar application. Do not apply before vining.
IRACAAA ILAAABA	Aphids Mites (including twospotted spider mite) AND MAI	0.23-0.26 lb/A (4-8 lb/gal EC)	Foliar application. OR MAI Formulated with methoxychlor or parathion.
ITBCCFA ITBCCZA INAMACA INAMADA IRAFAAA IMAAAGA INBUABA ITBMAWA IQAGAFA ITBQADA IMOAAAA	Armyworm Climbing cutworms Cucumber beetles Flea beetles Leafhoppers Leafminers Melonworm Pickleworm Squash bug Squash vine borer Thrips	—OR MAI-- [W/METHOXYCHLOR] 0.25-1 lb/A (0.5-1 lb/gal EC) or [W/PARATHION] 0.166 lb/A (3.7% D) or 0.2 lb/A (20% WP) or 0.125-0.25 lb/A (3 lb/gal EC)	
/11001AA	Eggplant		1 ppm 15 day preharvest interval through 0.5 pound per acre for foliar application.
IRACAAA INAMADA IRAFAAA IMAAAGA ILAVAAA IMOAAAA	Aphids Flea beetles Leafhoppers Leafminers Spider mites Thrips	[W/METHOXYCHLOR] 0.25-0.5 lb/A (0.5 lb/gal EC) or	Foliar application. Formulated with methoxychlor or parathion.

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	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Eggplant (continued)		
		[W/PARATHION] 0.125-0.25 lb/A (3 lb/gal EC)	
/22000AA	Forage Grass		1 ppm (forage) 15 day preharvest/pregrazing interval through 0.79 pound per acre for foliar application.
IRACAAA	Aphids	0.7-0.79 lb/A (4-8 lb/gal EC) or 0.25 lb/A (4 lb/gal EC) —OR MAI—	Foliar aplication. Aphids-apply 0.25 pound per acre. Range caterpillar-apply 0.5 pounds per acre. OR MAI Formulated with carbaryl or parathion.
ITACAAA	Armyworm (larvae)		
IQAMAJA	Black grass bugs		
IQALAHA	False chinch bug		
IVABAAA	Grasshoppers		
IQAMAIA	Grass bugs		
IRAFAAA	Leafhoppers		
ITBNAJA	Range caterpillar		
	AND MAI		
ITBJADA	Alfalfa caterpillar	[W/CARBARYL] 0.125-0.188 lb/A (1.25% D) or [W/PARATHION] 0.094-0.28 lb/A (3 lb/gal EC)	
INASBWJ	Alfalfa weevil (adult)		
INASBWC	Alfalfa weevil (larvae)		
INBGAAA	Blister beetles		
INASBXA	Clover leaf weevil		
ITBCABA	Cutworms		
INASBTC	Egyptian alfalfa weevil (larvae)		
INAMADA	Flea beetles		
IMAAAEA	Leafrollers		
IQAMARA	Lygus bugs		
ILAAABA	Mites		
IQAQAAA	Stink bugs		
IMOAAAA	Thrips		
ITBUAAA	Tortricid moths		
ITAAAMA	Webworms		
/14007AA	Garlic		1 ppm This use occurs only on Special Local Need (24-C) labeling and has not been summarized in this entry. Refer to appropriate labeling for use information and limitations.

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	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/01013AA	Gooseberries		1 ppm 15 day preharvest interval through 0.5 pound per acre for foliar application.
IRACAAA ILAVAAA	Aphids AND MAI Spider mites	0.117-0.5 lb/A (4-7.5 lb/gal EC) —OR MAI— [W/PARATHION] 0.125-0.25 lb/A (3 lb/gal EC)	Foliar application. OR MAI Formulated with parathion.
/01014AA	Grapes		1 ppm 14 day preharvest interval through 1 pound per acre for foliar application.
IRACAAA IRAFAOA ITBMATA ILAAABA IMOAAAA IQAQAFA IQALAHA ITBUCWA INBPBBA INBPAZA IRAWAAA ITBUAPA	Aphids Grape leafhopper Grape leaffolder Mites Thrips AND MAI Consperse stink bug False chinch bug Grape berry moth Hoplia beetle Japanese beetle Mealybugs Redbanded leafroller	0.7-0.75 lb/A (25-40% WP) or 1 lb/A (2 lb/gal Mcap) or 0.125-1 lb/100 gal/A (4-8 lb/gal EC) —OR MAI— [W/EPN] 0.75 lb/A (3 lb/gal EC) or [W/CARBARYL] 0.5-0.75 lb/A (2.5% D) or	Foliar application. OR MAI Formulated with EPN, carbaryl, or parathion. When formulated with parathion: Foliar application or postharvest application.

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Grapes (continued)		
		[W/PARATHION] 0.188-0.75 lb/A (3-4 lb/gal EC)	
/08020AA	Hops		1 ppm 15 day preharvest interval through 1 pound per acre for foliar application.
IRACAAA ITBCCFC IRAFAAA ILAAABA	Aphids Armyworm (larvae) Leafhoppers Mites (including spider mites)	1 lb/A (25-40% WP) or 0.5-1 lb/A (4-8 lb/gal EC) —OR MAI-- [W/PARATHION] 0.188-0.5 lb/A (2-3 lb/gal EC)	Foliar application. OR MAI Formulated with parathion.
	Kale	See Collards cluster.	
/13012AA /14015AA	Kohlrabi Rutabagas		1 ppm (kohlrabi) (rutabagas (with or without tops)) (rutabaga tops) 7 day preharvest interval through 0.5 pound per acre for foliar application. 21 day preharvest interval through 1.5 pounds per acre for foliar application.
IRACAAA ITBCCFC ITBCCSA INAMADA ITBJAHA IRAFAAA	Aphids Armyworm (larvae) Cabbage looper Flea beetles Imported cabbageworm Leafhoppers	0.75-1.5 lb/A (25-40% WP) or	Foliar application. Apply 0.94 to 1.5 pounds per acre for cabbage looper, imported cabbageworm, and stink bugs (emulsifiable concentrate).

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Kohlrabi cluster (continued) Pest list continued from previous page.		
ILAAABA IQAMAAA IQAQAAA ITBCCZA ITCHACA IMOAAAA INASCCA	Mites Plant bugs Stink bugs AND MAI Climbing cutworms Diamondback moth Thrips Vegetable weevil	0.47-1.5 lb/A (4-8 lb/gal EC) (43.62% EC) —OR MAI— [W/METHOXYCHLOR] 0.25-1 lb/A (0.5-1 lb/gal EC) or [W/PARATHION] 0.094-1.5 lb/A (2-4 lb/gal EC)	Apply 1.5 pounds per acre for plant bugs (emulsifiable concentrate). OR MAI Formulated with methoxychlor or parathion.
/15011AA	Lentils		1 ppm This use occurs only on Special Local Need (24-C) labeling and has not been summarized in this entry. Refer to appropriate labeling for use information and limitations.
/13020AA	Lettuce		1 ppm 21 day preharvest interval through 1 pound per acre for foliar application.
IRACAAA ITBCCFC ITBCCSA INAMADA ITBCCSA IRAFAAA IMAAAGA ILAAABA IQAMAAA INAMBJA	Aphids Armyworm (larvae) Cabbage looper Flea beetles Imported cabbageworm Leafhoppers Leafminers Mites Plant bugs AND MAI Banded cucumber beetle	0.63 lb/A (2.5% D) or 0.5-1 lb/A (25-40% WP) or 0.375-1 lb/A (4-8 lb/gal EC) (43.62% EC) or	Foliar application. Apply 1 pound per acre for cabbage looper, and plant bugs (emulsifiable concentrate). OR MAI Formulated with bacillus thuringiensis, carbaryl, parathion, or endosulfan.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Lettuce (continued)		
	Pest list continued from previous page.		
ITBCBOA	Corn earworm	--OR MAI-- [W/BACILLUS THURINGIENSIS] 0.6 lb/A (2% D) or [W/CARBARYL] 1 lb/A (2% D) or [W/PARATHION] 0.11-0.22 lb/A (3-7% D) or 0.2 lb/A (20% WP) or 0.094-1 lb/A (3-4 lb/gal EC) [W/ENDOSULFAN] 0.6 lb/A (2-5% D) or 0.45-0.6 lb/A (15% WP) or 0.375-1 lb/A (1-2 lb/gal EC)	
ITCHACA	Diamondback moth		
ITABACA	Saltmarsh caterpillar		
IQAQAAA	Stink bugs		
IMOAAAA	Thrips		
ITAAAMA	Webworms		

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/10001AA	**Melons**		1 ppm 7 day preharvest interval through 0.164 pound per acre for foliar application.
IRACAAA	Aphids	[W/PARATHION] 0.117-0.164 lb/A (3 lb/gal EC)	Foliar application. Formulated with parathion.
ITBCCFC	Armyworm (larvae)		
ITBCCSA	Cabbage loopers		
IRAFAAA	Leafhoppers		
ILAVAAA	Spider mites		
IMOAAAA	Thrips		
	Mustard Greens	See Collards cluster.	
/05003AA	**Nectarines**		1 ppm 14 day preharvest interval through 0.25 pound per 100 gallons for foliar application.
ITBMBGA	American plum borer	[W/PARATHION] 0.094-0.25 lb/100 gal (3 lb/gal EC)	Foliar application. Formulated with parathion.
IRACAAA	Aphids		
IQAAABA	Catfacing insects		
ITBUDHA	Eyespotted bud moth		
IVABAAA	Grasshoppers		
IMAAAEA	Leafrollers		
ITBQALA	Lesser peachtree borer		
ILAAABA	Mites		
ITBUCJA	Oriental fruit moth		
ITBUAYA	Pandemis moths		
ITBQAHA	Peachtree borer		
ITAMABA	Peach twig borer		
INASAVA	Plum curculio		
IRAAABA	Scales		
INBQBQA	Shothole borer		
IMOAAAA	Thrips		
	Oats	See Barley cluster.	

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0,0-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/14011AA	Onions		1 ppm 15 day preharvest interval through 0.94 pound per acre for foliar application.
IMOCAVA	Onion thrips AND MAI	0.25-0.94 lb/A (4-8 lb/gal EC) (43.62% EC) —OR MAI— [W/PARATHION] 0.094-0.25 lb/A (3 lb/gal EC)	Foliar application. OR MAI Formulated with parathion.
IRACAAA	Aphids		
ILAVAUA	Brown wheat mite		
IMAAAGA	Leafminer		
IOACACJ	Onion maggot (adults)		
IQAQAAA	Stink bugs		
/14011AA /14011BA	Onions, Dry Onions, Dry (seed crop)		1 ppm 15 day preharvest interval through 0.5 pound per acre. Do not apply when onions are blooming.
IMOCAVA	Onion thrips	0.5 lb/A (2 lb/gal Mcap)	Foliar application.
/28035AA	Pasture		1.25 ppm (alfalfa fresh, birdsfoot trefoil forage) 5.0 ppm (alfalfa hay, birdsfoot trefoil hay) 1.0 ppm (grass, clover, vetch) 7 day preharvest/pregrazing interval through 0.125 pound per acre for foliar application. 15 day preharvest interval through 0.5 pound per acre for foliar application.
IRACAAA	Aphids	[W/CARBARYL] 0.125-0.188 lb/A (1.25% D)	Foliar application. Formulated with carbaryl.
ITBCCFC	Armyworm (larvae)		
IVABAAA	Grasshoppers		
IQAQAAA	Stink bugs		
IMOAAAA	Thrips		
IOAMAAC	Mosquitoes (larvae)	0.063-0.125 lb/A (4-7.5 lb/gal EC)	Broadcast application to irrigated pastures.

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Pasture (continued)		
IVABAAA	Grasshoppers	0.5 lb/A (2 lb/gal Mcap)	Foliar application.
/05004AA	Peach		1 ppm (peaches) (plums (fresh prunes)) 14 day preharvest interval through 4 pounds per acre for foliar application.
/05005AA	Plum		
/05006AA	Prune		
IRACAAA	Aphids	0.5-1 lb/100 gal (25-40% WP) or 0.117-1 lb/100 gal (4-8 lb/gal EC) —OR MAI— [W/PARATHION] 0.094-1 lb/100 gal (3-4 lb/gal EC)	Foliar application. Oriental fruit moth and plum curculio-apply at petal fall or shuck split. Make 3 to 4 applications at 8 to 14 day intervals. Peach tree borer-apply to trunks from ground to scaffold limbs. Make 2 to 3 applications timed with moth flight. Aphids-apply in early cover sprays. Aphids and European red mite-make 2 applications at 5 day intervals. OR MAI Formulated with parathion.
ILAVASA	European red mite		
ITBUCJA	Oriental fruit moth		
ITBQAHA	Peachtree borer		
INASAVA	Plum curculio		
	AND MAI		
IQAAABA	Catfacing insects		
ITBUAGA	Fruittree leafroller		
IRAFAAA	Leafhoppers		
IMAAAEA	Leafrollers		
IRAWAAA	Mealybugs		
ILAAABA	Mites		
ITBUALA	Orange tortrix		
ITAMABA	Peach twig borer		
IRAAABJ	Scales (crawlers)		
IMOAAAA	Thrips		
ITAXAAA	Tussock moths		
/05004AA	(Peach)		
ITBUCJA	Oriental fruit moth	0.5 lb/100 gal or 1.5 lb/A [aircraft or concentrate] (2 lb/gal Mcap)	Foliar application.
INASAVA	Plum cucurlio		

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/28015AA	Peanuts		1 ppm 15 day preharvest interval through 0.5 pound per acre for foliar application.
IRACAAA IMOAAAA ITBCATA ITBCBOA ITBCCOA IRAFAJA	Aphids Thrips Velvetbean caterpillar AND MAI Corn earworm Fall armyworm Potato leafhopper	0.375 lb/A (4 lb/gal EC) —OR MAI— [W/CARBARYL] 0.5 lb/A (2.5% D) or [W/PARATHION] 0.125 lb/A (3 lb/gal EC) or [W/COPPER plus SULFUR] 0.375-0.5 lb/A (2% D)	Foliar application. OR MAI Formulated with carbaryl, parathion, or copper as metallic from cuprous and cupric oxide plus sulfur.
/04003AA	Pear		1 ppm 14 day preharvest interval through 6 pounds per acre for foliar application.
ITBUCSA INASAVA IRAKBYA	Codling moth Plum curculio San Jose scale	1 lb/100 gal (25% WP) or 0.25-0.5 lb/100 gal [max 6 lb/A] or 1-2 lb/A [concentrate] (2 lb/gal Mcap)	Foliar application. Do not tank mix microencapsulated formulation with streptomycin. San Jose scale-use limited to the northwest. Apply the maximum dosage for plum curculio and for heavy infestations of codling moth and San Jose scale.
IRACAAA ILAVASA ITBUCSA ITBCBSA IMAAAGA	Aphids European red mite OR MAI Codling moth Green fruitworm Leafminer	1 lb/100 gal (25% WP) or 0.117-0.5 lb/100 gal or	Foliar application. European red mite-make 2 applications at 5 day intervals. OR MAI Delayed dormant and foliar applications.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Pear (continued)		
	Pest list continued from previous page.		
IMAAAEA	Leafroller	0.625-2.5 lb/A (4-7.5 lb/gal EC) —OR MAI— [W/PARATHION] 0.094-1 lb/100 gal (3-4 lb/gal EC)	Formulated with parathion.
IRAWAAA	Mealybugs		
ILAAABA	Mites		
IRAXALA	Pear psylla		
ISBEAEA	Pear sawfly		
IRAAABG	Scales (crawlers)		
IQAMATA	Tarnished plant bug		
ILAJAWA	Pearleaf blister mite		
ILAVABA	Clover mite	0.15 lb/100 gal (3 lb/gal EC)	Delayed dormant and foliar application. Formulated with parathion.
ILAVBAA	Pacific spider mite		
IRAXALA	Pear psylla		
ILAVBBA	Schoene mite		
ILAVAIA	Willamette mite		
ILAJAWA	Pear leaf blister mite	[W/PARATHION] 0.094 lb/100 gal (3 lb/gal EC)	Delayed dormant application. Formulated with parathion.
/28016AA	Peas (including blackeyed peas, cowpeas, field peas, and southern peas)		1 ppm (peas) (peas, forage) 10 day preharvest interval through 0.5 pound per acre for foliar application. 15 day preharvest interval through 1 pound per acre for foliar application. 15 day preharvest interval through 0.5 pound per acre for foliar application of the microencapsulated formulation (forage peas only). Do not make more than 1 application of the microencapsulated formulation to forage peas per year.

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Peas (continued)		
IRACAAA	Aphids	0.63 lb/A (2.5% D) or 0.5-1 lb/A (25-40% WP) or 0.375-1 lb/A (4-8 lb/gal EC) (43.62% EC) —OR MAI— [W/METHOXYCHLOR] 0.25-1 lb/A (0.5-1 lb/gal EC) or [W/PARATHION] 0.2-0.25 (3.7% D) (20% WP) or 0.094-1 lb/A (2-4 lb/gal EC) or [W/ENDOSULFAN] 1 lb/A (2.5% D) or 0.5 lb/A (1 lb/gal EC)	Foliar application. Apply 1 pound per acre for cabbage looper, cowpea curculio, cutworms, and stink bugs (emulsifiable concentrate). OR MAI Formulated with methoxychlor, parathion or endosulfan.
ITBCCPC	Armyworm (larvae)		
ITBCCSA	Cabbage looper		
INASARA	Cowpea curculio		
ITBCABA	Cutworms (including surface feeding and climbing cutworms)		
INAMADA	Flea beetles		
IRAFAAA	Leafhoppers		
INAAAGA	Leafminers		
ILAAABA	Mites		
IQAMAAA	Plant bugs (including lygus bugs)		
IQAQAAA	Stink bugs		
	AND MAI		
ITBCAVA	Alfalfa looper		
ITBCARA	Celery looper		
INAGADA	Pea weevil		
IMOAAAA	Thrips		
IRACAIA	Pea aphid	0.5 lb/A (2 lb/gal Mcap)	Foliar application. Do not apply to Austrian winter peas during bloom. Pea aphid and pea weevil-for aerial application apply in a minimum of 5 gallons of water per acre.
INASDPA	Pea leaf weevil		
INAGADA	Pea weevil		

0,0-DIMETHYL 0-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/03008AA	Pecan		0.1 ppm 15 day preharvest interval 0.25 pound per 100 gallons for foliar application. Do not apply after husks open and do not feed treated husks to livestock.
IRACAAA	Aphids	[W/PARATHION] 0.125-0.25 lb/100 gal (3 lb/gal EC)	Foliar application. Twig girdler-make 3 to 5 applications at 14 to 21 day intervals. Pecan leafcase bearer-apply 0.25 pound per acre when nuts turn brown. Formulated with parathion.
ITBCCDA	Fall armyworm		
ILAAABA	Mites		
ITBMAFA	Pecan leaf casebearer		
INALBCA	Twig girdler		
ITBDABA	Walnut caterpiller		
/28017AA	Peppers		1 ppm 15 day preharvest interval through 1 pound per acre for foliar application.
IRACAAA	Aphids	0.63 lb/A (2.5% D) or 0.75-1 lb/A (25-40% WP) or 0.375-1 lb/A (4-8 lb/gal EC) (43.62% EC) —OR MAI— [W/METHOXYCHLOR] 0.25-1 lb/A (0.5-1 lb/gal EC) or [W/CARBARYL] 0.5-1 lb/A (2-2.5% D) or [W/PARATHION] 0.1-0.3 lb/A (3.7% D) (20% WP) or	Foliar application. Apply 1 pound per acre for cabbage looper, cutworms, and plant bugs. (emulsifiable concentrate). OR MAI Formulated with methoxychlor, carbaryl, parathion, endosulfan or carbaryl plus parathion.
ITBCCPC	Armyworm (larvae)		
ITBCCSA	Cabbage looper		
ITBCABA	Cutworms (including surface feeding and climbing cutworms)		
INAMADA	Flea beetles		
IRAFAAA	Leafhoppers		
IMAAAGA	Leafminers		
ILAAABA	Mites		
IQAMAAA	Plant bugs AND MAI		
ITBCBOA	Corn earworm		
IOBMATA	Pepper maggots		
IRAXAAA	Psyllids		
INBPAUA	Rose chafer		
IQAQAAA	Stink bugs		
IMOAAAA	Thrips		

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Peppers (continued)		
		0.094-1 lb/A (2-4 lb/gal EC) or [W/ENDOSULFAN] 0.25-0.67 lb/A (2.5% D) (15% WP) (1-2 lb/gal EC) or [W/CARBARYL plus PARATHION] 0.03-0.45 lb/A (1.5% D)	
	Plum		See Peach cluster.
/14013AA	Potato		0.1 ppm 5 day preharvest interval through 1.5 pounds per acre for foliar application.
IRACAAA	Aphids	0.6-1 lb/A	Foliar application.
ITBCCFC	Armyworm (larvae)	(2-2.5% D)	
ITBCCSA	Cabbage looper	or	Apply 1.5 pounds per acre for cabbage looper, false chinch bug, and plant bugs (emulsifiable concentrate).
IQALAHA	False chinch bug	0.75-1.5 lb/A	
INAMADA	Flea beetles	(25-40% WP)	
IVABAAA	Grasshoppers	or	
IRAFAAA	Leafhoppers	0.23-1.5 lb/A	OR MAI
IMAGAAA	Leafminers	(4-8 lb/gal EC)	Formulated with carbaryl, parathion, or endosulfan.
ILAAABA	Mites		
IQAMAAA	Plant bugs	(43.62% EC)	
IQAQAQA	Shieldbacked bugs		
IQAQAAA	Stink bugs	—OR MAI--	
IMOAAAA	Thrips AND MAI	[W/CARBARYL]	
INBGAAA	Blister beetles	0.25-1 lb/A	
INAMBJA	Banded cucumber beetle	(2.5% D) or	
ITBCCZA	Climbing cutworms		
INAMCFA	Colorado potato beetle		

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Potato (continued)		
	Pest list continued from previous page.		
IQAGAEA	Leaffooted plant bug	[W/PARATHION] 0.125-1.5 lb/A (3-4 lb/gal EC) or [W/ENDOSULFAN] 0.5-1 lb/A (1.5-2 lb/gal EC)	
IRAXAHA	Potato psyllid		
INAMAPA	Potato tuberworm		
INASCCA	Vegetable weevil		
IRABAAA	Whiteflies		
	Prune		See Peach cluster.
/10011AA	Pumpkins		1 ppm 10 day preharvest interval through 0.25 pound per acre for foliar application.
IRACAAA	Aphids	[W/PARATHION] 0.125-0.25 lb/A (3 lb/gal EC)	Foliar application. Formulated with parathion.
ITBCCFC	Armyworm (larvae)		
ITBCCSA	Cabbage looper		
INAMADA	Flea beetles		
IRAFAAA	Leafhoppers		
ILAVAAA	Spider mite		
IMOAAAA	Thrips		
/28045AA /22013BA	Rangeland (including grass (seed crop))		1 ppm (grass) 15 day preharvest pregrazing interval through 0.5 pound per acre for foliar application.
IVABAAA	Grasshoppers	0.5 lb/A (2 lb/gal Mcap)	Foliar application.
	Rutabagas	See Kohlrabi cluster.	
	Rye	See Barley cluster.	

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/28077AA	Safflower		0.1 ppm (safflower seed) Do not apply after flowering through 0.5 pound per acre for foliar application.
IRACAAA	Aphids	0.25-0.5 lb/A or 0.5 lb/A (25% WP) —OR MAI— [W/PARATHION] 0.15-0.5 lb/A (2-4 lb/gal EC)	Foliar application. OR MAI Formulated with parathion.
IQAMARA	Lygus bugs		
/28019AA	Sorghum		0.1 ppm (sorghum) 3.0 ppm (sorghum fodder) 3.0 ppm (sorghum forage) 21 day preharvest interval through 1 pound per acre for foliar application. Leaf injury may occur on some hybrids. Test spray a few rows 7 days before the boot stage. Do not apply with wetting agents.
IRACAAA	Aphids	0.313-1 lb/A (4-8 lb/gal EC) --OR MAI-- [W/CARBARYL] 0.125-0.25 lb/A (1.25% D) or [W/PARATHION] 0.125-0.3 lb/A (3.7% D) (2-3 lb/gal EC)	Foliar application. Sorghum midge-apply when 90 percent of the heads emerge from the boot. Make 2 applications 3-to 5 days apart. Apply no later than the start of bloom. OR MAI Formulated with carbaryl or parathion.
ILAAABA	Mites		
IOARAIA	Sorghum midge AND MAI		
ITBCCFA	Armyworm		
ITBCBOA	Corn earworm		
IQALAHA	False chinch bug		
IVABAAA	Grasshoppers		
ITBCBAA	Sorghum webworm		
IQAQAAA	Stink bugs		

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	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/28023AA	Soybeans		0.1 ppm (soybeans) 1.0 ppm (soybean hay) 15 day preharvest/pregrazing interval through 0.5 pound per acre for foliar application. 20 day preharvest/pregrazing interval through 1 pound per acre for foliar application. Do not make more than 2 applications per growing season.
IRACAAA	Aphids	0.25-0.5 lb/A	Foliar application.
ITBCCFC	Armyworm (larvae)	(2.5% D)	Apply 1 pound per acre for armyworms, bean leaf beetle, corn earworm, fall armyworm, and grasshoppers (emulsifiable concentrate). OR MAI Formulated with EPN, carbaryl, parathion, azinphos methyl, or carbaryl plus parathion.
INAMARA	Bean leaf beetle	or	
INBGAAA	Blister beetles	0.5 lb/A	
ITBCCSA	Cabbage looper	(25-40% WP)	
ITBCCZA	Climbing cutworms	or	
ITBCBOA	Corn earworm	0.5-1 lb/A	
ITBMBVA	Garden webworm	(2 lb/gal	
IVABAAA	Grasshoppers	Mcap)	
ITBCCCA	Green cloverworm	or	
INAPAFA	Mexican bean beetle	0.25-1 lb/A	
ILAVAAA	Spider mites (including twospotted spider mite)	(1.5-8 lb/gal EC)	
		—OR MAI—	
IQAQAAA	Stink bugs		
IRASADA	Three cornered alfalfa hopper	[W/EPN]	
IMOAAAA	Thrips	(2.85-4 lb/gal EC)	
ITBCATA	Velvet bean caterpillar	or	
	AND MAI	[W/CARBARYL]	
ITBJADA	Alfalfa caterpillar	0.125-0.4	
INAMACA	Cucumber beetles	0.178-1 lb/A	
INBPAZA	Japanese beetle	lb/A	
IRAFAAA	Leafhoppers	(1.8-2.5% D)	
ITABACA	Saltmarsh caterpillar	or	
		[W/PARATHION] 0.222-0.333 lb/A (3.7% D) or 0.125-1 lb/A (2-4 lb/gal EC) or	

0,0-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Soybeans (continued)	[W/AZINPHOS METHYL] 0.56-0.94 lb/A (3 lb/gal EC) or [W/CARBARYL plus PARATHION] 0.225 lb/A (1.5% D)	
/13024AA	Spinach		1 ppm 15 day preharvest interval through 0.5 pound per acre for foliar application. 21 day preharvest interval through 1 pound per acre for foliar application.
IRACAAA ITBCCFC ITBCCSA ILABAHA INAMADA ITBJAHA IRAFAAA IMAAAGA ILAAABA IQAMAAA IOACAHA IMOAAAA INASCCA ITAAAMA	Aphids Armyworm (larvae) Cabbage looper Crown mite Flea beetles Imported cabbageworm Leafhoppers Leaf miners Mites Plant bugs Seed corn maggot (in crown) AND MAI Thrips Vegetable weevil Webworms	0.63 lb/A (2.5% D) or 0.5-1 lb/A (25-40% WP) or 0.375-1 lb/A (4-8 lb/gal EC) (43.62% EC) —OR MAI— [W/PARATHION] 0.25 lb/A (25% WP) or 0.188-1 lb/A (3-4 lb/gal EC) or [W/ENDOSULFAN] 0.75 lb/A (2.5% D) or	Foliar application. Apply 1 pound per acre for cabbage looper and plant bugs (emulsifiable concentrate). OR MAI Formulated with parathion or endosulfan.

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O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, [illegible] Limitations
	Spinach (continued)		
		0.45 lb/A (15% WP) or 0.375-0.5 lb/A (1-2 lb/gal EC)	
/10012AA	Squash		1 ppm 15 day preharvest interval through 0.15 pound per acre for foliar application.
IRACAAA	Aphids	[W/PARATHION] 0.094-0.15 lb/A (3 lb/gal EC)	Foliar application. Formulated with parathion.
ITBCCFC	Armyworm (larvae)		
ITBCCSA	Cabbage looper		
I:AMADA	Flea beetles		
IRAFAAA	Leafhoppers		
ILAAABA	Mites		
I:OAAAA	Thrips		
/C1016AA	Strawberry		1 ppm 14 day preharvest interval through 0.79 pound per acre for foliar application.
IRACAAA	Aphids	0.5-0.79 lb/A (25-40% WP) (4-8 lb/gal EC)	Foliar application.
ILAAABA	Mites AND MAI		Apply 0.75 pound per acre for mites.
::AHAAA	Crickets		OR MAI
I:AMADA	Flea beetles	—OR MAI—	Formulated with parathion.
IRAFAAA	Leafhoppers		
I:AAAEA	Leafrollers	[W/PARATHION] 0.125-0.375 lb/A (3 lb/gal EC)	
I:AMARA	Lygus bugs		
IQALAJA	Pameras		
I:OAAAA	Thrips		

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O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/28020AA	Sugar Beets		0.1 ppm (beets, sugar) (beets, sugar (tops)) 20 day preharvest interval through 0.375 pound per acre for foliar application (roots). 60 day preharvest interval through 0.375 pound per acre for foliar application (tops).
IRACAAA	Aphids	0.25-0.375 lb/A (25-40% WP) (4-8 lb/gal EC) —OR MAI— [W/PARATHION] 0.11-0.25 (3.7% D) (2-3 lb/gal EC) or [W/ENDOSULFAN] 0.25-0.375 lb/A (2 lb/gal EC)	Foliar application. OR MAI Formulated with parathion or endosulfan.
ITBCCFC	Armyworm (larvae)		
ITBCABA	Cutworms		
ITBCCOA	Fall armyworm		
INAMADA	Flea beetles		
IVABAAA	Grasshoppers		
IRAFAAA	Leafhoppers		
IMAAAGA	Leafminers		
IQAMARA	Lygus bugs		
ILAAABA	Mites		
IQAQAAA	Stink bugs		
ITBMBWA	Sugarbeet webworm		
	AND MAI		
ITBCAVA	Alfalfa loopers		
INBGAAA	Blister beetles		
IRAEAKA	Meadow spittlebug		
ITAAAMA	Webworms		
/27011AA	Sunflower		0.2 ppm (sunflower seed) 30 day preharvest interval through 1 pound per acre for foliar application. Do not make more than 3 applications at 5 day intervals per growing season. Do not feed seeds to birds.
IOBMARA	Sunflower maggot	0.94-1 lb/A (4-8 lb/gal EC)	Foliar application. Apply at first flowering or at onset of bloom. Repeat at 5 day intervals.
ITBMBPA	Sunflower moth		
INASFPA	Sunflower seed weevil complex		

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/14018AA	Sweet Potato		0.1 ppm 5 day preharvest interval through 0.8 pound per acre for foliar application.
IRACAAA	Aphids	0.5-0.8 lb/A	Foliar application.
ITBCCFC	Armyworm (larvae)	(25-40% WP)	OR MAI
ITBCCSA	Cabbage looper	or	Formulated with parathion.
ITBCABA	Cutworms (including surface feeding and climbing cutworms)	0.75-0.79 lb/A (4-8 lb/gal EC)	
INAMADA	Flea beetles		
IRAFAAA	Leafhoppers	—OR MAI—	
ILAAABA	Mites	[W/PARATHION] 0.25-0.375 lb/A (3 lb/gal EC)	
/11005AA	Tomato		1 ppm 10 day preharvest interval through 0.5 pound per acre for foliar application. 15 day preharvest interval through 1.5 pounds per acre for foliar application.
IRACAAA	Aphids	0.87-1 lb/A	Foliar application.
ITBCCFC	Armyworm (larvae)	(2.5% D)	
ITBCCSA	Cabbage looper	or	Apply 0.94 to 1.5 pounds per acre for cabbage looper (emulsifiable concentrate).
INAMADA	Flea beetles	0.75-1.5 lb/A	
IRAFAAA	Leafhoppers		
IMAAAGA	Leafminers	(25-40% WP)	
ILAAABA	Mites	or	Dust may be formulated with bacillus thuringiensis.
IQAMAAA	Plant bugs	0.23-1.5 lb/A	
IRAXAHA	Tomato psyllid	(4-8 lb/gal EC)	OR MAI
	AND MAI		
INBGAAA	Blister beetles	(43.62% EC)	Formulated with methoxychlor, EPN, parathion, endosulfan, and carbaryl plus parathion.
INAMCFA	Colorado potato beetle		
INBUAAA	Darkling beetle	—OR MAI--	
ITBCCOA	Fall armyworm	[W/METHOXYCHLOR]	
IVABAAA	Grasshoppers		
ITBRAAA	Hornworms	0.25-1 lb/A	
IRAXAPA	Psyllids	(0.5-1 lb/gal EC)	
IQAQAAA	Stink bugs		
IMOAAAA	Thrips	or	

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Tomato (continued)		
	Pest list continued from previous page.		
ITBCBOA	Tomato fruitworm	[W/EPN] 0.48-1.33 lb/A (2.85-4 lb/gal EC) or [W/CARBARYL] 0.5-1 lb/A (2-2.5% D) or [W/PARATHION] 0.22-0.25 lb/A (3.7% D) (20% WP) or 0.125-0.47 lb/A (3-4 lb/A) or [W/ENDOSULFAN] 1 lb/A (2.5% D) or 0.3-1 lb/A (25% WP) (1-2 lb/gal EC) or [W/CARBARYL plus PARATHION] 0.3-0.45 lb/A (1.5% D)	
INASCCA	Vegetable weevil		
IRABAAA	Whiteflies		

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	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
/28022AA	Turnips		1 ppm (turnips (with or without tops)) (turnip greens) 7 day preharvest interval through 0.5 pound per acre for foliar applications. 15 day preharvest interval through 0.8 pound per acre for foliar application (roots). 21 day preharvest interval through 0.8 pound per acre for foliar application (tops).
IRACAAA	Aphids (including cabbage aphid)	0.75 lb/A (2.5% D) or 0.5-0.8 lb/A (25-40% WP) or 0.23-0.8 lb/A (4-8 lb/gal EC)	Foliar application. Cabbage aphids-in the coastal areas of CA, apply when aphids are present and colonies abundant. Apply 0.7 to 0.8 pound per acre for cabbage aphids, cabbage looper, imported cabbageworm, and plant bugs (emulsifiable concentrate). OR MAI Formulated with carbaryl, parathion, or endosulfan.
ITBCCFC	Armyworm (larvae)		
ITBCCSA	Cabbage looper		
INAMADA	Flea beetles		
ITBJAHA	Imported cabbageworm		
IRAFAAA	Leafhoppers		
IMAAAGA	Leafminers		
ILAAABA	Mites		
IQAMAAA	Plant bugs		
	AND MAI	—OR MAI—	
INBGAAA	Blister beetles	[W/CARBARYL] 0.5 lb/A (2.5% D) or [W/PARATHION] 0.094-0.75 lb/A (2-4 lb/gal EC) or [W/ENDOSULFAN] 0.75 lb/A (2.5% D) or 0.45 lb/A (15% WP) or 0.375 lb/A (1 lb/gal EC)	
ITBCABA	Cutworms		
ITCHACA	Diamondback moth		
IQALAHA	False chinch bug		
IMOAAAA	Thrips		
INASCCA	Vegetable weevils		
ITAAAMA	Webworms		
	Vetch	See Alfalfa cluster.	
	Wheat	See Barley cluster.	

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	TERRESTRIAL NON-FOOD CROP (Agricultural Crops)		
/26015AA	Guayule		N.F. This use occurs only on Special Local Need (24-C) labeling and has not been summarized in this entry. Refer to appropriate labeling for use information and limitations.
/27018AA	Jojoba		N.F. This use occurs only on Special Local Need (24-C) labeling and has not been summarized in this entry. Refer to appropriate labeling for use information and limitations.
/26003AA	Tobacco		N.F. 5 day pre-priming interval through 1.5 pounds per acre. 15 day pre-cutting interval through 1.5 pounds per acre. Avoid contact with plant juices when priming or cutting.
IRACAAA ITBCBNA ITBRAKA	Aphids Tobacco budworm Tobacco hornworm	1-1.5 lb/A (2 lb/gal Mcap)	Foliar application. Apply in 25 to 40 gallons of water per acre. Tobacco budworm-apply in 18 to 40 gallons of water per acre. Repeat at 5 to 7 day intervals.
IRACAAA ITBCABA ITBCCSA IQAQAAA ITBCBNA INAMBUA ITBRAKA IQAMAFA	Aphids (including green peach aphid) Cutworms (including surface feeding and climbing cutworms) AND MAI Cabbage looper Stink bugs Tobacco budworm Tobacco flea beetle Tobacco hornworm Tobacco suckfly	0.5 lb/A (25-40% WP) or 0.23-0.5 lb/A (4-8 lb/gal EC) —OR MAI— [W/CARBARYL] 0.18-0.375 lb/A (1.25-1.8% D) or	Foliar application. Formulated with carbaryl, parathion, endosulfan, carbaryl plus parathion, or endosulfan plus zineb.

EPA Compendium of Acceptable Uses

0,0-DIMETHYL 0-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Tobacco (continued)		
		[W/PARATHION] 0.11-0.5 lb/A (2-3.7% D) or 0.094-0.375 lb/A (3 lb/gal EC) (24.06-32.7% EC) or [W/CARBARYL plus PARATHION] 0.225-0.3 lb/A or [W/ENDOSULFAN plus ZINEB] 0.4-0.5 lb/A (2% D)	
/26003DA	Tobacco (to be transplanted)		N.F. Do not apply within 5 days of transplanting.
INBPALC	Green June beetle (larvae)	0.167-0.25 lb/100 gal/ 100 sq.yd (4-7.5 lb/gal EC)	Application to transplant beds. Apply emulsifiable concentrates with a sprinkling can.-
ITBCCSA	Cabbage looper		OR MAI
INAMADA	Flea beetles		Formulated with carbaryl or endosulfan.
ITBRAAA	Horn worms		With carbaryl apply with a hand duster.
IQAQAAA	Stink bugs		
ITBCBNA	Tobacco budworms	—OR MAI— [W/CARBARYL] 0.216-0.432 oz/ 100 sq.yd (1.8% D) or	

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Tobacco (to be transplanted) (continued)		
		[W/ENDOSULFAN] 0.094-0.25 lb/100 gal [1 gal/sq.yd] (1.5 lb/gal EC)	
	(Ornamental Plants and Forest Trees)		
/31003AA	Field Grown Ornamental Flowering Plants		Do not apply to Chrysanthemums before plants flower.
/31065AA	Chrysanthemum		
/31085AA	Daisy		
/31137AA	Marigolds		
/31188AA	Stock		
IRACAAA IRABAAA	Aphids Whiteflies	[W/ENDOSULFAN] 0.5-1 lb/A (2.5% D)	Foliar application. Formulated with endosulfan.
	(Noncrop, Wide Area, and General Indoor/Outdoor Treatments)		
/67000AA	Forest, Nonagricultural Land, Wastelands		Toxic to fish and wildlife. Do not use where shrimp and crabs are an important resource. Do not use in any estuaries, coastal or tidal areas along the Southeast Atlantic or Gulf Coast. When treating lakes or other open bodies of water, apply only to shallow edges. Consult state fish and game departments before applying to public waters.
IOAMAAC	Mosquito (larvae)	0.1-0.117 lb/A (4-7.5 lb/gal EC)	For use by Mosquito Abatement Districts and Official Government Agencies. Broadcast application.

EPA Compendium of Acceptable Uses

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	AQUATIC FOOD CROP		
	(Agricultural Crops)		
/28072AA	Rice		1 ppm 15 day preharvest interval through 0.79 pound per acre for foliar application. Do not apply within 14 days of an application of propanil.
IRACAAA ITBCCFC IVABAAA IRAFAAA IQAQAAA	Aphids Armyworm (larvae) Grasshoppers Leafhoppers Stink bugs	0.75 lb/A (25% WP) or 0.47-0.79 lb/A (1.5-7.5 lb/gal EC) —OR MAI— [W/CARBARYL] 0.125-0.188 lb/A (1.25% D)	Foliar application. OR MAI Formulated with carbaryl.
ITBCCFA ITBCABA IVABAAA	Armyworm Cutworms Grasshoppers	[W/TOXAPHENE] 0.16-0.75 lb/A (2-4 lb/gal EC)	Foliar application. Sale, distribution, or use of toxaphene is permitted only after a showing of emergency conditions to the Environmental Protection Agency by a federal or state agency and issuance by the Environmental Protection Agency of a finding that an emergency condition exists, and only as permitted by that Environmental Protection Agency finding. Formulated with toxaphene.
IVABAAA	Grasshoppers	0.5 lb/A (2 lb/gal Mcap)	Foliar application.
IOARABA ITBAABA	Rice leafminer Tadpole shrimp	0.7-0.75 lb/A (4-7.5 lb/gal EC)	Use limited to CA. Foliar application. Apply at first sign of infestation following planting. Apply in 5 to 10 gallons of water per acre by aircraft. Limit rice spill for 3 days following application.

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
	Rice (continued)		
		—OR MAI— [W/PARATHION] 0.25 lb/A (3 lb/gal EC)	OR MAI Formulated with parathion.
IQAQAAA	Stinkbugs (including rice stinkbug)	0.23-0.53 lb/A (2 lb/gal Mcap) (4-8 lb/gal EC)	Foliar application.
	FORESTRY		
	(Ornamental Plants and Forest Trees)		
30059AA 30005AA	Forest and Christmas Tree Plantings (pine)		
ITBUDDA	European pine shoot moth	0.94-1 lb/A (4-7.5 lb/gal EC)	Foliar application. Apply in 5 to 50 gallons of water per acre.
ITBUDEA	Nantucket pine tip moth		
	AERIAL, MOTHPROOFING AND TANK MIX APPLICATIONS		
9900300 AAAAAA	Aerial Application		
	—		Refer to TERRESTRIAL FOOD CROPS (Agricultural Crops) All Sites TERRESTRIAL NON-FOOD CROPS (Agricultural Crops) Tobacco (Noncrop, Wide Area, and General Indoor/Outdoor Treatments) Forest, Nonagricultural Land, Wastelands

	Site and Pest	Dosages and Formulation(s)	Tolerance, Use, Limitations
9001500 AAAAAAA	Tank Mix —		

TERRESTRIAL FOOD CROPS
(Agricultural Crops)
Almonds, Cotton

0,0-DIMETHYL 0-p-NITROPHENYL PHOSPHOROTHIOATE

Listing of Registration Numbers by Formulation

&280.0001 80% technical chemical

0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501)
002393-00355 003125-00035 004787-00004 009618-00003
009859-00267 039511-00002

0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501) plus xylene (086802)
000476-01710 000524-00068 000524-00136

&283.5001 83.5% technical chemical

0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501) plus aromatic petroleum distillate (006601)
000876-00015

&025.0002 25% formulation intermediate

0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501)
005905-00339 037686-00065

&001.2503 1.25% dust

0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501) plus carbaryl (056801)
000769-00339

&001.5003 1.5% dust

0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501) plus carbaryl (056801)
002124-00721 005905-00314 046946-00171

0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501), carbaryl (056801) plus parathion (057501)
001842-00255

&001.8003 1.8% dust

0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501) plus carbaryl (056801)
037686-00037

&002.0003 2% dust

0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501)
001526-00450

0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501) plus bacillus thuringiensis var. kurstaki (006402)
001202-00270

0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501) plus carbaryl (056801)
001202-00298 005905-00313

0,0-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

Listing of Registration Numbers by Formulation (continued)

2% dust (continued)

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus parathion (057501)
001812-00199

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), zineb (014506) plus endosulfan (079401)
000279-02808

&002.5003 2.5% dust

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501)
000476-01044 001812-00073 005905-00078 005905-00372
037686-00026

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus carbaryl (056801)
001812-00076 001812-00208 005905-00327 006735-00110
009779-00146

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus endosulfan (079401)
000279-02680

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), copper as metallic from cuprous and cupric oxide (042403) plus sulfur or sulphur (077501)
037686-00043

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), endosulfan (079401) plus toxaphene (080501)
000279-02966*
*currently unavailable for review

&003.7003 3.7% dust

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus parathion (057501)
005905-00146

&015.0006 15% wettable powder

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus endosulfan (079401)
000279-02574

&020.0006 20% wettable powder

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus parathion (057501)
005905-00110

0,0-DIMETHYL 0-p-NITROPHENYL PHOSPHOROTHIOATE

Listing of Registration Numbers by Formulation (continued)

&025.0006 25% wettable powder
0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501)
000279-02669 000524-00129 001202-00161 007001-00207

&040.0006 40% wettable powder
0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501)
000524-00146

&102.0009 2 lb/gal microencapsulated
0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501) plus xylene range aromatic solvent (086803)
004581-00292 004581-00320 004581-00324

&100.5012 0.5 lb/gal emulsifiable concentrate
0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501), methoxychlor technical (034001) plus xylene range aromatic solvent (086803)
005905-00366

&100.7512 0.75 lb/gal emulsifiable concentrate
0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501), malathion (053501), toxaphene (080501) plus xylene (086802)
003743-00326

&100.9912 0.99 lb/gal emulsifiable concentrate
0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501), toxaphene (080501) plus xylene (086802)
003743-00330

&101.0012 1 lb/gal emulsifiable concentrate
0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501), methoxychlor technical (034001) plus xylene range aromatic solvent (086803)
005905-00367

0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501), endosulfan (079401) plus xylene range aromatic solvent (086803)
000279-02609

0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501), toxaphene (080501) plus xylene (086802)
037430-00335

&101.5012 1.5 lb/gal emulsifiable concentrate
0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501) plus xylene range aromatic solvent (086803)
005905-00223

0,0-dimethyl 0-p-nitrophenyl phosphorothioate (053501), aromatic petroleum derivative solvent (006501) plus toxaphene (080501)
001191-00310

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

Listing of Registration Numbers by Formulation (continued)

1.5 lb/gal emulsifiable concentrate (continued)

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), petroleum distillate (063503) plus endosulfan (079401)
000279-02608

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), endosulfan (079401) plus xylene (086802)
007001-00119 034704-00183

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), toxaphene (080501) plus xylene (086802)
003743-00322

5101.6012 **1.6 lb/gal emulsifiable concentrate**

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), aromatic petroleum derivative solvent (006501) plus endrin (041601)
009857-00107 040831-00022

5102.0012 **2 lb/gal emulsifiable concentrate**

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus aromatic petroleum distillate (006601)
000554-00063

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus petroleum distillate (063503)
004185-00143

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus xylene (086802)
000264-00354 001842-00114 005905-00176 046946-00019

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus xylene range aromatic solvent (086803)
005905-00306 005905-00344 005905-00348

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), parathion (057501) plus xylene (086802)
001812-00139 001812-00140

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), parathion (057501) plus xylene range aromatic solvent (086803)
000476-02014 005905-00241

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), endosulfan (079401) plus xylene (086802)
005967-0[illegible]2 001226-00051 010226-00051

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), endosulfan (079401) plus xylene range aromatic solvent (086803)
000279-02149

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

Listing of Registration Numbers by Formulation (continued)

1.5 lb/gal emulsifiable concentrate (continued)

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), petroleum distillate (063503) plus endosulfan (079401)
000279-02608

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), endosulfan (079401) plus xylene (086802)
007001-00119   034704-00183

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), toxaphene (080501) plus xylene (086802)
003743-00322

5101.6012 1.6 lb/gal emulsifiable concentrate

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), aromatic petroleum derivative solvent (006501) plus endrin (041601)
009857-00107   040831-00022

5102.0012 2 lb/gal emulsifiable concentrate

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus aromatic petroleum distillate (006601)
000554-00063

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus petroleum distillate (063503)
004185-00143

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus xylene (086802)
000264-00354   001842-00114   005905-00176   046946-00019

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus xylene range aromatic solvent (086803)
005905-00306   005905-00344   005905-00348

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), parathion (057501) plus xylene (086802)
001812-00139   001812-00140

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), parathion (057501) plus xylene range aromatic solvent (086803)
000476-02014   005905-00241

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), endosulfan (079401) plus xylene (086802)
005967-0[illegible]2   001226-00051   010226-00051

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), endosulfan (079401) plus xylene range aromatic solvent (086803)
000279-02149

Listing of Registration Numbers by Formulation (continued)

2 lb/gal emulsifiable concentrate (continued)

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), toxaphene (080501) plus xylene (086802)
001526-00479   003743-00262   003743-00299

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), toxaphene (080501) plus xylene range aromatic solvent (086803)
003142-00048   007467-00054

&102.8512 2.85 lb/gal emulsifiable concentrate

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), O-ethyl O-(p-nitrophenyl)phenylphosphonothioate (041801) plus xylene range aromatic solvent (086803)
000352-00406   000876-00234   000876-00409   000876-00411
000876-00413   000876-00414   000876-00418   000876-00422
000876-00423   000876-00424   000876-00425   000876-00426
000876-00430   001339-00219   001339-00222   006735-00238
012062-00010   032928-00010   033722-00013   034704-00071
037686-00001   044605-00001

&103.0012 3 lb/gal emulsifiable concentrate

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus parathion (057501)
000279-02128*   000524-00144   001812-00154   001990-00457
002124-00720   002393-00354   002935-00360   007401-00203
008934-00067   009859-00200   010163-00003   010226-00034
012130-00025   014475-00016   019713-00083   034704-00016
037686-00051   044317-00018
*currently unavailable for review

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), aromatic petroleum derivative solvent (006501) plus O-ethyl O-(p-nitrophenyl)phenylphosphonothioate (041801)
000769-00376

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), aromatic petroleum derivative solvent (006501) plus parathion (057501)
000769-00329   009859-00108   011656-00016   040831-00105

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), aromatic petroleum derivative solvent (006501) plus malathion (057701)
009779-00207*
*currently unavailable for review

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), aromatic petroleum derivative solvent (006501) plus O,O-dimethyl S-[(4-oxo-1,2,3,-benzotriazin-3(4H)-yl)methyl] phosphorodithioate (058001)
000769-00439   009779-00191*
*currently unavailable for review

0,0-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

Listing of Registration Numbers by Formulation (continued)

3 lb/gal emulsifiable concentrate (continued)

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), aromatic petroleum distillate (006601) plus O-ethyl O-(p-nitrophenyl)phenylphosphonothioate (041801)
009779-00031 019713-00057 025030-00007 045115-00031*
*currently unavailable for review

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), aromatic petroleum distillate (006601) plus parathion (057501)
009779-00125

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), aromatic petroleum distillate (006601) plus 0,0-dimethyl S-[(4-oxo-1,2,3,-benzotriazin-3(4H)-yl)methyl] phosphorodithioate (058001)
009779-00191

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), O-ethyl O-(p-nitrophenyl)phenylphosphonothioate (041801) plus xylene (086802)
001842-00256 005905-00085 012130-00010 013166-00007
044317-00030

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), O-ethyl O-(p-nitrophenyl)phenylphosphonothioate (041801) plus xylene range aromatic solvent (086803)
001063-00122 002935-00349 003442-00694 004841-00065

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), parathion (057501) plus xylene (086802)
001202-00125 001528-00487 001812-00139 005905-00225
007001-00202 008934-00080 045115-00022

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), parathion (057501) plus xylene range aromatic solvent (086803)
000400-00232 000476-01894 000476-01989 000876-00071
001258-01025 002737-00039 003468-00018 004185-00308
005481-00152 006735-00118

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), malathion (057701) plus xylene (086802)
005905-00242*
*currently unavailable for review

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), toxaphene (080501) plus xylene (086802)
000400-00263 001526-00499 003743-00323 012130-00007
034704-00027

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), toxaphene (080501) plus xylene range aromatic solvent (086803)
044605-00004

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

Listing of Registration Numbers by Formulation (continued)

3 lb/gal emulsifiable concentrate (continued)

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), aromatic petroleum distillate (006601), malathion (057701) plus xylene (086802)
034704-00020

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), aromatic petroleum distillate (006601), O,O-dimethyl S-[(4-oxo-1,2,3,-benzotriazin-3(4H)-yl)methyl] phosphorodithioate (058001) plus xylene (086802)
005905-00247

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), aromatic petroleum distillate (006601), O,O-dimethyl S-[(4-oxo-1,2,3,-benzotriazin-3(4H)-yl)methyl] phosphorodithioate (058001) plus xylene range aromatic solvent (086803)
001258-01039*
*currently unavailable for review

104.0012 4 lb/gal emulsifiable concentrate

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus aromatic petroleum derivative solvent (006501)
000524-00128 000524-00273 000769-00340 000802-00498
001191-00284 001258-01019 002269-00096 007401-00155
009859-00104 009859-00152 010163-00002 014775-00015
015575-00011 044317-00008 044684-00001

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus aromatic petroleum distillate (006601)
001063-00104 001339-00140 004841-00038 008648-00012
008867-00003 009779-00034 010411-00003 011656-00030
025030-00003 039190-00003

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus petroleum distillate (063503)
003743-00298 019713-00037 042057-00071 042463-00005
045115-00046

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus xylene (086802)
000264-00353 000400-00206 001598-00182 001842-00133
001842-00205 002124-00745 002217-00471 002393-00246
002737-00019 003051-00067 005905-00055 008934-00029
011682-00007 012062-00005 012130-00018 013166-00011
033439-00003 033722-00006 039511-00092 040831-00041

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus xylene range aromatic solvent (086803)
000279-01500 000476-01078 000876-00069 001202-00124
001208-00034 001258-01030 001526-00194 001990-00370
002935-00142 003442-00688 004185-00256 004581-00117
004977-00107 006735-00089 007232-00002 007467-00059

Listing of Registration Numbers by Formulation (continued)

4 lb/gal emulsifiable concentrate (continued)

009779-00162 010107-00039 034704-00010 037686-00029
037686-00029 044605-00002

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), aromatic petroleum distillate (006601) plus O-ethyl O-(p-nitrophenyl)phenylphosphonothioate (041801)
009779-00131 025030-00009

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), aromatic petroleum distillate (006601) plus parathion (057501)
001202-00076

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), aromatic petroleum distillate (006601) plus malathion (057701)
009779-00153*
*currently unavailable for review

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), O-ethyl O-(p-nitrophenyl)phenylphosphonothioate (041801) plus xylene (086802)
001339-00220 001842-00268 005905-00107 006735-00154
044317-00024

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), O-ethyl O-(p-nitrophenyl)phenylphosphonothioate (041801) plus xylene range aromatic solvent (086803)
003442-00691

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), malathion (057701) plus xylene (086802)
005905-00198*
*currently unavailable for review

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), toxaphene (080501) plus xylene range aromatic solvent (086803)
044605-00005 045639-00056

5104.2012 4.2 lb/gal emulsifiable concentrate
0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus aromatic petroleum derivative solvent (006501)
00524-00131

5105.0012 5 lb/gal emulsifiable concentrate
0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501)
010226-00007

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus aromatic petroleum derivative solvent (006501)
000524-00276* 010163-00007
*currently unavailable for review

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

Listing of Registration Numbers by Formulation (continued)

5 lb/gal emulsifiable concentrate (continued)

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus aromatic petroleum distillate (006601)
011656-00013

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus xylene (086802)
007001-00054

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus xylene range aromatic solvent (086803)
000279-01431 000476-01518 002935-00363 005481-00175

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), xylene (086802) plus permethrin (109701)
005905-00465

&106.0012 6 lb/gal emulsifiable concentrate

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus aromatic petroleum derivative solvent (006501)
000524-00274 000769-00440 001339-00184

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus xylene range aromatic solvent (086803)
037686-00067

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501), aromatic petroleum distillate (006601) plus permethrin (109701)
005905-00466

&107.2012 7.2 lb/gal emulsifiable concentrate

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus aromatic petroleum distillate (006601)
009779-00218

&107.5012 7.5 lb/gal emulsifiable concentrate

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus aromatic petroleum distillate (006601)
001339-00183 039190-00001

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus xylene (086802)
005905-00414

O,O-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus xylene range aromatic solvent (086803)
002935-00421 004185-00452 006735-00239 007401-00301
007467-00061 034704-00072

0,0-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

Listing of Registration Numbers by Formulation (continued)

S108.0012 8 lb/gal emulsifiable concentrate
0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus aromatic petroleum derivative solvent (006501)
000524-00272

S215.9012 15.9% emulsifiable concentrate
0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), endosulfan (079401) plus xylene (086802)
000279-02057*
*currently unavailable for review

S216.8012 16.8% emulsifiable concentrate
0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus toxaphene (080501)
010163-00012

0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), aromatic petroleum distillate (006601) plus toxaphene (080501)
002460-00053*
*currently unavailable for review

S245.6212 45.62% emulsifiable concentrate
0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501) plus xylene (086802)
003468-00017

S103.0016 3 lb/gal liquid-ready to use
0,0-dimethyl O-p-nitrophenyl phosphorothioate (053501), malathion (057701) plus xylene (086802)
000241-00225 003743-00321

999999 State Label Registrations

AL Reg. No.
009779-04760 015575-05327 015575-05328 015575-05331
015575-05336 015575-05338 039297-10582 039297-10583
039297-10584

AZ Reg. No.
000279-04033 001526-09112 002935-06659 002935-06660
007001-04374 007001-04375 007001-04380 007001-04383
010026-05671 010026-05673 010226-03758 011656-05724
011656-05742 011656-05752

CA Reg. No.
000239-04134 000239-04135 000279-03508 000279-03517
000279-03901 000279-03997 000279-04015 001202-05028
002935-06668 002935-06672 005481-03849 005481-03850

O,O-DIMETHYL O-p-NITROPHENYL PHOSPHOROTHIOATE

Listing of Registration Numbers by Formulation (continued)

CA Reg. No. (continued)

005967-05148 005967-06218 006023-03038 006023-03047
006973-03603 007001-07659 007001-07672 007001-07706
007001-07708 007001-07709 007001-07711 007001-07744
007001-10565 008434-04727 008434-04728 010226-03750
010226-03757 010226-03761 010226-03764 010951-09803
010965-09874 010972-05298 011124-09000 011124-09001
011369-08797 011369-08810 011656-05688 011656-05693
011656-05694 035296-05795

CO Reg. No.
008773-04617 008773-04621

FL Reg. No.
002342-06945 009859-07628 009859-07632 035222-07163
035222-07164 035222-07165 035222-07166

GA Reg. No.
001812-05435 011017-08194

LA Reg. No.
004814-06127 004841-06166 037841-08558

MO Reg. No.
010371-07494

TX Reg. No.
004581-04480 007467-03390 007467-03394 033722-03271
033722-03273 037854-08296 037854-08297 037854-08301
037854-08624

Appendix A

Listing of Common Chemical Names Used on the Entry

Chemical Code	Common Name (source)	EPA Acceptable Common/Chemical Name
028201	propanil (ISO)	3',4'-dichloropropionanilide
034001	methoxychlor	methoxychlor, technical
041801	EPN	O-ethyl O-(p-nitrophenyl)phenylphosphonothioate
042403	copper	copper as metallic from cuprous and copper oxide
058001	azinphos-methyl (ISO)	0,0-dimethyl S-[(4-oxo-1,2,3-benzotriazin-3(4H)-yl)methyl] phosphorodithioate

BIBGUIDE-1

GUIDE TO USE OF THIS BIBLIOGRAPHY

1. CONTENT OF BIBLIOGRAPHY. This bibliography contains citations of all studies considered relevant by EPA in arriving at the positions and conclusions stated elsewhere in the Standard. Primary sources for studies in this bibliography have been the body of data submitted to EPA and its predecessor agencies in support of past regulatory decisions. Selections from other sources including the published literature, in those instances where they have been considered, will be included.

2. UNITS OF ENTRY. The unit of entry in this bibliography is called a "study." In the case of published materials, this corresponds closely to an article. In the case of unpublished materials submitted to the Agency, the Agency has sought to identify documents at a level parallel to the published article from within the typically larger volumes in which they were submitted. The resulting "studies" generally have a distinct title (or at least a single subject), can stand alone for purposes of review, and can be described with a conventional bibliographic citation. The Agency has attempted also to unite basic documents and commentaries upon them, treating them as a single study.

3. IDENTIFICATION OF ENTRIES. The entries in this bibliography are sorted numerically by "Master Record Identifier," or MRID, number. This number is unique to the citation, and should be used at any time specific reference is required. It is not related to the six-digit "Accession Number" which has been used to identify volumes of submitted studies; see paragraph 4(d)(4) below for a further explanation. In a few cases, entries added to the bibliography late in the review may be preceded by a nine-character temporary identifier. These entries are listed after all MRID entries. This temporary identifier number is also to be used whenever specific reference is needed.

4. FORM OF ENTRY. In addition to the Master Record Identifier (MRID), each entry consists of a citation containing standard elements followed, in the case of material submitted to EPA, by a description of the earliest known submission. Bibliographic conventions used reflect the standards of the American National Standards Institute (ANSI), expanded to provide for certain special needs.

a. Author. Whenever the Agency could confidently identify one, the Agency has chosen to show a personal author. When no individual was identified, the Agency has shown an identifiable laboratory or testing facility as author. As a last resort, the Agency has shown the first submitter as author.

b. Document Date. When the date appears as four digits with no question marks, the Agency took it directly from the document. When a four-digit date is followed by a question mark, the bibliographer deduced the date from evidence in the document. When the date appears as (19??), the Agency was unable to determine or estimate the date of the document.

c. Title. In some cases, it has been necessary for Agency bibliographers to create or enhance a document title. Any such editorial insertions are contained between square brackets.

d. Trailing Parentheses. For studies submitted to the Agency in the past, the trailing parentheses include (in addition to any self-explanatory text) the following elements describing the earliest known submission:

   (1) Submission Date. The date of the earliest known submission appears immediately following the word "received."

   (2) Administrative Number. The next element, immediately following the word "under," is the registration number, experimental use permit number, petition number, or other administrative number associated with the earliest known submission.

   (3) Submitter. The third element is the submitter, following the phrase "submitted by." When authorship is defaulted to the submitter, this element is omitted.

   (4) Volume Identification (Accession Numbers). The final element in the trailing parentheses identifies the EPA accession number of the volume in which the original submission of the study appears. The six-digit accession number follows the symbol "CDL," standing for "Company Data Library." This accession number is in turn followed by an alphabetic suffix which shows the relative position of the study within the volume. For example, within accession number 123456, the first study would be 123456-A; the second, 123456-B; the 26th, 123456-Z; and the 27th, 123456-AA.

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OMB Approval No. 2000-0468 (Expires 12-31-83)

FIFRA SECTION 3(C)(2)(B) SUMMARY SHEET

EPA REGISTRATION NO.

PRODUCT NAME

APPLICANT'S NAME

DATE GUIDANCE DOCUMENT ISSUED

With respect to the requirement to submit "generic" data imposed by the FIFRA section 3(C)(2)(B) notice contained in the referenced Guidance Document, I am responding in the following manner:

☐ 1. I will submit data in a timely manner to satisfy the following requirements. If the test procedures I will use deviate from (or are not specified in) the Registration Guidelines or the Protocols contained in the Reports of Expert Groups to the Chemicals Group, OECD Chemicals Testing Programme, I enclose the protocols that I will use:

☐ 2. I have entered into an agreement with one or more other registrants under FIFRA section 3(C)(2)(B)(ii) to satisfy the following data requirements. The tests, and any required protocols, will be submitted to EPA by:

NAME OF OTHER REGISTRANT

☐ 3. I enclose a completed "Certification of Attempt to Enter Into an Agreement with Other Registrants for Development of Data" with respect to the following data requirements:

☐ 4. I request that you amend my registration by deleting the following uses (this option is not available to applicants for new products):

☐ 5. I request voluntary cancellation of the registration of this product. (This option is not available to applicants for new products.)

REGISTRANT'S AUTHORIZED REPRESENTATIVE	**SIGNATURE**	**DATE**

EPA Form 8580-1 (10-82)

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OMB Approval No. 2000-0468 (Expires: 12-31-83)

CERTIFICATION OF ATTEMPT TO ENTER INTO AN AGREEMENT WITH OTHER REGISTRANTS FOR DEVELOPMENT OF DATA

(To qualify, certify ALL four items)

1. I am duly authorized to represent the following firm(s) who are subject to the requirements of a Notice under FIFRA Section 3(c)(2)(B) contained in a Guidance Document to submit data concerning the active ingredient:

GUIDANCE DOCUMENT DATE

ACTIVE INGREDIENT

NAME OF FIRM	EPA COMPANY NUMBER

(This firm or group of firms is referred to below as "my firm".)

2. My firm is willing to develop and submit the data as required by that Notice, if necessary. However, my firm would prefer to enter into an agreement with one or more other registrants to develop jointly, or to share in the cost of developing, the following required items or data:

3. My firm has offered in writing to enter into such an agreement. Copies of the offers are attached. That offer was irrevocable and included an offer to be bound by an arbitration decision under FIFRA Section 3(c)(2)(B)(iii) if final agreement on all terms could not be reached otherwise. This offer was made to the following firm(s) on the following date(s):

NAME OF FIRM	DATE OF OFFER

However, none of those firm(s) accepted my offer.

4. My firm requests that EPA not suspend the registration(s) of my firm's product(s), if any of the firms named in paragraph (3) above have agreed to submit the data listed in paragraph (2) above in accordance with the Notice. I understand EPA will promptly inform me whether my firm must submit data to avoid suspension of its registration(s) under FIFRA Section 3(c)(2)(B). (This statement does not apply to applicants for new products.) I give EPA permission to disclose this statement upon request.

TYPED NAME	SIGNATURE	DATE

EPA Form 8580-6 (10-82)

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PRODUCT SPECIFIC DATA REPORT

EPA Reg. No.________________ Date ________________

Guidance Document for ________________

Registration Guideline No.	Name of Test	Test not required for my product listed above (check below)	I am complying with data requirements by		(For EPA Use Only) Accession Numbers Assigned
			Citing MRID Number or EPA Accession Number	Submitting Data (Attached)	
§158.120 PRODUCT CHEMISTRY					
61-1	Identity of ingredients				
61-2	Statement of composition				
61-3	Discussion of formation of ingredients				
62-1	Preliminary analysis				
62-2	Certification of limits				
62-3	Analytical methods for enforcement limits				
63-2	Color				
63-3	Physical state				
63-4	Odor				
63-5	Melting point				
63-6	Boiling point				
63-7	Density, bulk-density, or specific gravity				
63-8	Solubility				
63-9	Vapor pressure				
63-10	Dissociation constant				
63-11	Octanol/water partition coefficient				
63-12	pH				

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Registration Guideline No.	Name of Test	Test not required for my product listed above (check below)	I am complying with data requirements by Citing MRID Number or EPA Accession Number	Submitting Data (Attached)	(For EPA Use Only) Accession Numbers Assigned
63-13	Stability				
63-14	Oxidizing/reducing reaction				
63-15	Flammability				
63-16	Explodability				
63-17	Storage stability				
63-18	Viscosity				
63-19	Miscibility				
63-20	Corrosion characteristics				
63-21	Dielectric breakdown voltage				
§158.135 TOXICOLOGY					
81-1	Acute oral toxicity, rat				
81-2	Acute dermal toxicity, rabbit				
81-3	Acute inhalation, toxicity, rat				
81-4	Primary eye irritation, rabbit				
81-5	Primary dermal irritation				
81-6	Dermal sensitization				

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FORMULATOR'S EXEMPTION STATEMENT
(40 CFR 152.85)

EPA File Symbol/Reg. No. ____________ Product Name ____________________

Applicant's Name and Address ______________________________________

____

____

____

As an authorized representative of the applicant for registration of the product identified above, I hereby certify that:

(1) This product contains the active ingredient(s): _______________

____

____

(2) Each active ingredient listed in paragraph (1) is present solely as the result of the incorporation into the product (during formulation or packaging) of another product which contains that active ingredient, which is registered under FIFRA sec. 3, and which is purchased by us from another producer.

(3) Indicate by circling (A) or (B) below which paragraph applies:

(A) An accurate Confidential Statement of Formula (EPA Form 8570-4) for the above identified product is attached to this statement. That formula statement indicates, by company name, registration number and product name, the source of the active ingredient(s) listed in paragraph (1).

OR

(B) The Confidential Statement of Formula dated _________ on file with the EPA is complete, current and accurate and contains the information required on the current CSF Form No. 8570-4. The registered source(s) of the active ingredient(s) listed in paragraph (1) is/are listed below:

Active ingredient	Source: Product name and Reg. No.

Signature ______________________________

Date ____________ Title ______________________________

EPA Form (April 1985)